Ironbark No. 1 Project: EPBC 2007/3643

Offsets Management Plan

earthtrade

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This document has been prepared by Environmental Offsets Solutions Pty Ltd t/a Earthtrade with support from Hansen Bailey and Fitzroy Australia Resources (**the proponent**).

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1. Executive summary

This Offsets Management Plan (**OMP**) has been prepared pursuant to Condition 6 of the Ironbark No. 1 Coal Mine Project *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval (2007/3643) as varied by the Variation of Conditions attached to the approval dated 7 June 2019. The Ironbark No. 1 Coal Mine Project (the **Project**) is an underground metallurgical coal mine situated 35km north-east of Moranbah in the Northern Bowen Basin, Queensland. The Project will utilise the longwall and bord and pillar methods for extracting coal within the Leichhardt Seam within Mining Lease (**ML**) 700024 which covers an area of approximately 3,400 hectares (**ha**).

Field surveys of both the impact and offset areas were undertaken between 30 September and 2 October 2018 and 7 to 9 November 2018 (inclusive). The *BioCondition Assessment Report* (December 2018; Cumberland Ecology. Report No. Q18009RPI) (**BioCondition Assessment Report**) is included in *Appendix A*.

Condition 6 of the **EPBC Act** approval requires environmental offsets to compensate for the following impacted EPBC Act listed threatened species and communities:

- 9.2 ha of Brigalow (*Acacia harpophylla* dominant and co-dominant) Threatened Ecological Community (**Brigalow TEC**);
- 57 ha of *Geophaps scripta scripta* or Squatter Pigeon (southern) (**Squatter Pigeon**) breeding habitat; and
- 26 ha of Squatter Pigeon foraging habitat.

The conditions of approval also provided that impacts to 74 ha of *Egernia rugosa* (**Yakka Skink**) habitat would require offsetting, unless further surveys demonstrated the species was not present at the impact site. As per approval conditions 4 and 5, a pre-clearance Yakka Skink survey was conducted, and the findings were provided to the-then Department of Environment and Energy (**DoEE**). On 7 July 2019, DoEE approved the Yakka Skink report and noted the Yakka Skink report finds the Yakka Skink is not present at the site. Therefore, the requirements of conditions 5A, 5B and 5C for the provision and implementation of a Yakka Skink Offset Strategy do not apply. The Yakka Skink is not discussed further in this OMP.

The BioCondition values of impact area and the offset area are summarised in *Table 1* and detailed in *Section 4* and *Section 5*. All offsets meet the EPBC Act Offsets Policy requirement for 100% direct offset.

DoEE has confirmed that the approval conditions allow for flexibility in the location of surface disturbance from the project,[1] so long as the maximum disturbance limits in Condition 2 of the EPBC Act approval are not exceeded. The disturbance areas for the initial construction phase are less than the limits in Condition 2 of the EPBC Act approval, as there will be additional approved surface disturbance for approved mining activities in the future. However, Fitzroy Australia Resources (**the proponent**) are securing offsets for the maximum approved disturbance areas as stated in Condition 2 of the EPBC Act approval. The balance of the approved impact areas (i.e. the difference between the approved limits in Condition 2 of the EPBC Act approval and the disturbance areas for the initial construction phase) have not been subject to BioCondition surveys as the location of these disturbances has not been accurately confirmed. DoEE has therefore agreed that the BioCondition

[1] DoEE advice (email,dated 7 May 2019).

values for the balance of the approved impact areas for Brigalow TEC and Squatter Pigeon habitat be based, conservatively, on the highest quality habitat surveyed in the BioCondition surveys. It was also agreed with DoEE that before the balance areas are disturbed, they would be subject to BioCondition surveys. If the surveyed habitat values are the same or less than the assumed habitat values, then the disturbance can proceed without any further offsets. If the surveyed habitat is of higher quality than assumed in the OMP, then additional offsets would need to be obtained prior to impacting the additional areas.

Table 1: Summarised project impacts vs proposed offset area

Protected matter	EPBC Act Status	Impact area (ha)	Habitat quality score	Total offset area (ha)	Habitat start quality score	Regional eco-systems (RE)	Final habitat quality score	Future quality without offset	% Risk of Loss (ROL) without offset	% ROL with offset	% Confidence in ROL	% Confidence in quality	% of offset
Threatened ecological communities													
(Acacia harpophylla dominant and co-dominant) (Brigalow TEC)	E - 9.2ha	Remnant 7.9ha	7	22.00	4	Regrowth – RE 11.3.1 Brigalow (which does not meet the TEC)	7	3	0	0	100	85	106.55
		Regrowth 1.3ha	5	3.00	4		7	3	0	0	100	85	123.62
Threatened species													
(Geophaps scripta scripta) (Squatter Pigeon).	V - breeding - 57ha	Remnant 57ha	7	9.4	6	Remnant – RE 11.3.25 Queens-land Blue Gum (Euc-alyptus) woodland fringing drainage lines	7	6	0	0	100	85	1.92
				20.7	5	Regrowth – RE 11.3.4 Queens-land Blue Gum (Euc-alyptus) woodland on alluvial plains	7	4	20	0	100	85	17.15
				98.3	5	Regrowth – RE 11.3.3 Coolabah (Euc-alyptus) woodland	7	4	20	0	100	85	81.43

Protected matter	EPBC Act Status	Impact area (ha)	Habitat quality score	Total offset area (ha)	Habitat start quality score	Regional eco-systems (RE)	Final habitat quality score	Future quality without offset	% Risk of Loss (ROL) without offset	% ROL with offset	% Confidence in ROL	% Confidence in quality	% of offset
						on alluvial plains							
	V - foraging - 26ha	Remnant 24.7ha	6	20.6	4	Regrowth – RE 11.4.2 Poplar Box (Euc-alyptus) grassy or shrubby woodland on clay plains	6	3	20	0	100	85	43.27
				27.5	4	Regrowth – RE 11.3.1 Brigalow (which does not meet the TEC)	6	3	20	0	100	85	57.77
		Regrowth 1.3ha	5	2.9	4	Regrowth – RE 11.3.1 Brigalow (which does not meet the TEC)	5	3	20	0	100	85	101.17

This OMP for the proposed offset area on the property 'Brigalow' has been prepared to meet the principles, and therefore the requirements, of the EPBC Act *Environmental Offsets Policy* (October 2012) (**EOP**).

2. Introduction

2.1 Description of the Project

The proponent will manage the Project on ML 700024, which covers an area of approximately 3,400 ha. The Project is an underground metallurgical coal mine situated 35 km north-east of Moranbah in the Northern Bowen Basin, Queensland. The Project will use both longwall and bord and pillar mining methods for extracting coal within the Leichhardt Seam. The Project received EPBC Act approval (2007/3643) with conditions on 9 November 2018.

To proceed with the project, environmental offsets must be provided to compensate for impacts to Matters of National Environmental Significance (**MNES**) as specified in Condition 6 of the EPBC Act approval. Field surveys and BioCondition assessments of the impact areas on the project site and the offset property were undertaken by Cumberland Ecology (see the BioCondition Assessment Report provided at *Appendix A*). This OMP relies on the findings of the BioCondition assessments to outline how the offset obligations for the EPBC Act approval are addressed and how the aspects of the OMP meet the offset policy requirements.

Figure 1: Project context map

2.2 Purpose of the Plan

The specific requirements for the OMP are listed in Condition 6 of the EPBC Act approval. *Table 2* provides the requirements in Condition 6 and includes a reference to the OMP sections where each requirement is addressed.

Table 2: OMP Requirements Compliance Checklist

OMP Requirement (Condition 6 of the EPBC Act approval)	OMP section reference
6. The approval holder must submit an OMP for the written approval of the Minister. The approved OMP must be implemented. The OMP must be prepared by a suitably qualified person in accordance with the Department's Environment Management Plan Guidelines and include:	This OMP has been submitted to the Minister for approval and will be implemented. It has been prepared by a suitably qualified person.
a. details of environmental offset/s to compensate for the EPBC Act listed threatened species and communities habitat to be impacted as identified in Conditions 2a to 2c;	*Section 5, Appendix A, Schedule 3*
b. a description of the habitat condition to be impacted for the EPBC Act listed threatened species and communities habitat as identified in Condition 2a to 2c;	*Section 4, Appendix A, Schedule 3*
c. details of how the proposed offset/s and OMP meet the requirements of the EPBC Act EOP;	*Section 3, Table 3*
d. a field validation survey and baseline description of the current condition (prior to any management activities) of the offset area/s, including existing vegetation;	*Appendix A*
e. a description and map (including shapefiles) to clearly define the location and boundaries of the proposed offset area/s, accompanied by the offset attributes;	*Section 5.1* and *Figures 2 to 6* provide a description and map of the proposed offset area. Shapefiles will be supplied to DoEE.
f. information about how the proposed offset area/s provide connectivity with other relevant habitats and biodiversity corridors;	*Section 5.6*
g. a description of the management measures (including timing, frequency and duration) that will be implemented in each offset area/s;	*Section 9*
h. a discussion of how proposed management measures take into account relevant approved conservation advices and are consistent with the measures contained in relevant recovery plans and threat abatement plans;	*Section 3, Table 4*
i. completion criteria and performance targets for evaluating the effectiveness of the OMP implementation, and criteria for triggering corrective actions;	*Section 6, Table 10*

OMP Requirement (Condition 6 of the EPBC Act approval)	OMP section reference
j. a program to monitor, report on and review the effectiveness of the OMP;	*Section 10*
k. a description of potential risks to the successful implementation of the offset/s, and contingency measures that would be implemented to mitigate against these risks; and	*Section 8, Table 7, Section 9, Table 10*
l. details of the mechanism to legally secure the environmental offset/s.	*Section 7*

This OMP will remain in force until at least the expiry of the EPBC Act approval on 1 August 2060. The ecological benefits (i.e. completion criteria) will be achieved within 20 years and will be maintained for the life of the EPBC Act approval. Once the ecological benefits have been realised, the offset area will be monitored for the remaining life of the EPBC Act approval (that is, all monitoring elements of this OMP will remain in effect for the life of the EPBC Act approval, all restrictions and prohibitions on uses of the land will remain in effect for the life of the EPBC Act approval, and any decline in environmental condition after the ecological benefits have been realised will trigger resumption of active management).

3. EPBC Act Environmental Offsets Policy

This section details how the proposed offset meets the requirements of the EPBC Act EOP.

3.1 Policy principles

The EPBC Act EOP sets out eight key overarching principles that must be applied in determining the suitability of offsets. *Table 3* outlines how each of the key policy principles has been considered in this OMP with a description of how the principle has been addressed and a reference to the relevant OMP section.

Table 3: EPBC Act EOP requirements for the OMP

Policy requirement	Project offsets and OMP section reference
Suitable offsets must deliver an overall conservation outcome that improves or maintains the viability of the protected matters.	The proposed offset will acquit over 100% of the required offsets for Brigalow TEC and Squatter Pigeon. The Offset Assessment Guide used by the proponent and DoEE, included the ecological assessments and the BioCondition scores to determine a suitable offset area. The offset area will be managed to increase the extent and condition of the Brigalow TEC and to improve habitat quality for the Squatter Pigeon, as per the Offset Area Management Measures which are shown at *Table 10* of this OMP.
Suitable offsets must be built around direct offsets but may include other compensatory measures.	100% of the Project's MNES offset obligations will be acquitted by the proposed direct land-based offsets.
Suitable offsets must be in proportion to the level of statutory protection	The threatened status of the impacted MNES is taken into account by the offset assessment guide. The Squatter Pigeon is listed as Vulnerable and Brigalow TEC is listed as Endangered under the EPBC Act.

Policy requirement	Project offsets and OMP section reference
that applies to the protected matter.	
Suitable offsets must be of a size and scale proportionate to the residual impacts on the protected matter.	The extent of the offset has been calculated using ecological reports of both the impact and offset areas to inform inputs into the offset assessment guide (see *Schedule 2*).
Suitable offsets must effectively account for and manage the risks of the offset not succeeding.	The risks associated with the offset have been assessed (*Table 9*) and appropriate mitigation and management measures are provided in *Table 10*. The Offset Assessment Guide also accounts for project risks by discounting the anticipated quantum of offset delivered to reflect residual uncertainties.
Suitable offsets must be additional to what is already required, determined by law or planning regulations, or agreed to under other schemes or programs.	Regrowth vegetation clearing or other development activities on the freehold offset area are not currently prohibited by state legal mechanisms. As the proponent understands it, clearing for grazing is also permitted under the EPBC Act. The area is zoned rural and has been used for cattle grazing and vegetation clearing has been conducted since the late 1950s as part of the Brigalow Development Scheme. The offset will protect the land from future clearing and will secure it via a Voluntary Declaration (VDec) under the *Vegetation Management Act 1999* (QLD) (**VMA**). See *Section 7* for further detail. The offset area is not subject to another offset or conservation mechanism. The proposed pest animal and weed management activities are additional to those required under the *Biosecurity Act 2014* (Qld). See *Section 5.4* for further detail.
Suitable offsets must be efficient, timely, transparent, scientifically robust and reasonable	The proposed offsets will be efficient and timely as the offset will be legally secured within 2 years from the commencement of the action, as per the project's EPBC Act approval, condition 7. The offset calculations are transparent, scientifically robust, and reasonable as they are based on the BioCondition Assessment Report (*Appendix A*) and application of the offset assessment guide.
Suitable offsets must have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced.	The offset area was surveyed in October and November 2018, providing the baseline BioCondition measurements for attributes relevant to the protected matters. These baseline BioCondition measurements will be improved over time. Monitoring and reporting are detailed in *Table 11* and *Table 12*. The offset will be protected from clearing and secured via a VDec that has its head of power under the VMA. See *Section 7* for further detail.

The offset area meets the requirements of the Environmental Offsets Policy (EOP). Consideration was also given to property plans and any potential conflicting future use of the property to minimise the potential for conflicting land use pressures within and around the offset area.

3.2 Addressing relevant EPBC Act plans and advice

The EOP states that an offset should address key priority actions outlined for the impacted MNES in any approved recovery plans, threat abatement plans, conservation advice, ecological character description or approved Commonwealth management plan. *Table 4* summarises how this plan addresses the relevant conservation advices and threat abatement plans, on the offset area.

Table 4: Conservation Advices and Threat Abatement Plans addressed in the OMP

MNES	Document	Key points/threats/advice	Section addressed in documents
Brigalow TEC and Squatter Pigeon	2001 Commonwealth Listing Advice on Brigalow (*Acacia harpophylla* dominant and co-dominant (Brigalow TEC Listing Advice) 2013 *Approved Conservation Advice for the Brigalow* (Acacia harpophylla *dominant and co-dominant) ecological community* (Brigalow TEC Approved Conservation Advice) Approved Conservation Advice for *Geophaps scripta scripta* Squatter Pigeon (southern)(Squatter Pigeon Approved Conservation Advice)	Vegetation clearing. The Brigalow ecological community was listed as Endangered on the basis of extensive clearing. Illegal clearing remains an ongoing concern for both remnant and regrowth areas of Brigalow. Squatter Pigeons do not move far from woodland trees that provide protection from predatory birds, and do not typically forage further than 100m from remnant trees or patches of wooded habitat (DoEE, 2018). Current threats to the Squatter Pigeon include ongoing vegetation clearance and fragmentation.	*Table 10*: Forestry and native vegetation clearing are not allowed except for what is needed for the removal of non-native weeds and pests, public safety and the maintenance of existing roads, fence lines and firebreaks. The offset area will be protected from clearing[2] by this OMP and the VDEC that will be registered on the Title of the property. Forestry or timber harvesting of any nature is not allowed under this OMP. *Table 10*: Grazing. Grazing (which can damage Squatter Pigeon nests) is prohibited from January to October during the dry season and peak Squatter Pigeon breeding season. Grazing is also prohibited in November and December whenever the grass cover is less than the levels required in Table 10. Grazing will cease when minimum grass cover percentages are reached (see Table 10 for minimum

[2] Ironbark No. 1 EPBC Act approval EPBC 2007/3643 Clear/ing/ance: means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of native vegetation (but not including weeds – see the *Australian Weeds Strategy 2017 to 2027*

MNES	Document	Key points/threats/advice	Section addressed in documents
			grass cover levels by RE) or at the end of December. Stock will be grazed in the offset area for fuel reduction purposes only.
		Fire. 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 [*Pennisetum ciliare syn. Cenchrus ciliaris*], Rhodes grass [*Chloris gayana*] or green panic grass [*Megathyrsus maximus syn. Panicum maximum*]) in, or adjacent to, Brigalow woodlands (Butler, 2007). Fragmentation and disturbance can interact with invasive grasses to increase the risk of fire to remnant Brigalow woodlands. Linear remnants, such as those occurring on roadsides, possess large edge to area ratios and often grow in a matrix of introduced pasture grasses. Fire associated with exotic grass invasion is more problematic in the more open Brigalow woodland types in the west and north. Generally, the most appropriate fire regime for Brigalow stands is fire-exclusion (Butler, 2007). It is possible that grazing can be used to manage grass fuel loads. It may also be possible in some cases to develop techniques with cool fires that reduce fuel loads without killing Brigalow.	*Table 10:* Fire is not permitted in the offset area, not even as a tool for regrowth management purposes. Fire management includes maintaining firebreaks in the offset area to minimise the risk of a *force majeure* fire event. Grazing is used for fuel reduction purposes in the summer dry months, outside of peak Squatter Pigeon breeding season.

MNES	Document	Key points/threats/advice	Section addressed in documents
		Hot fires that impact vegetation community structure and increase the likelihood of weed invasion after the initial reduction in groundcover.	
		Inappropriate Grazing Regimes. Trampling by large herbivores compresses soil, can reduce leaf litter and woody debris, and can alter the composition and density of herbs and shrubs in the understory. It is possible that grazing can be used to manage grass fuel loads. Overgrazing by livestock and feral herbivores can damage Squatter Pigeon habitat and livestock can trample Squatter Pigeon nests.	*Table 10*: Grazing. Grazing is prohibited from January to the end of October (during the dry season and peak Squatter Pigeon breeding season) Grazing is subsequently allowed in November and December if the grass cover is more than 60%. Grazing will cease when minimum grass cover percentages are reached (see *Table 10* for minimum grass cover levels by RE) or at the end of December. Stock will be grazed in the offset area for fuel reduction purposes only.
	Brigalow TEC Approved Conservation Advice. *Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads.*[3] Squatter Pigeon Approved Conservation Advice. *Threat Abatement Plan for predation by the European red fox.*	Plant and animal pests. Pest plants can alter the structure and function of Brigalow ecosystems and affect their suitability as habitat for native species. Introduced grasses, such as buffel grass, Rhodes grass and green panic grass, pose the greatest 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 in the Brigalow TEC,	*Table 10*: Pest plants will be reduced to a maximum of 10% of ground cover across the offset area. The 10% level is adopted as a reasonable aspirational target to be achieved over the term of the management plan. This is consistent with the Brigalow TEC Approved Conservation Advice which requires Brigalow TEC to have less than 50% of exotic perennial plant coverage. It

[3] Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads. © Commonwealth of Australia 2011

MNES	Document	Key points/threats/advice	Section addressed in documents
	Threat Abatement Plan for predation by feral cats. *Threat Abatement Plan for Competition and Land Degradation by Rabbits*.	although goats, cane toads, cats and foxes are also serious threats (Butler, 2007). There is no guidance from the Threat Abatement Plan for the Cane Toad on management of Brigalow TEC. Squatter Pigeons have a mainly granivorous diet, mostly feeding on the seeds of legumes in the family Fabaceae (41% of food volume) including those of exotic pasture plants such as *Stylosanthes* spp., and native grasses in the family *Poaceae* (23% of food volume) (Crome, 1976; Higgins and Davies, 1996). They occasionally forage in sown grasslands and pastures, feeding on exotic legumes such as *Stylosanthes* spp. (Crome, 1976). A high weed cover results in competition for the bird's diet. Squatter Pigeons are prey for feral animals including cats and foxes. Rabbits cause habitat degradation for the Squatter Pigeon.	is also beneficial for the Squatter Pigeon which needs native legumes and grasses for its dietary requirements. *Table 10*: Pest animals. Trigger levels and corrective actions are detailed in *Table 10*.

4. Impact Area

4.1 Overview of project site

The Project site is situated predominantly on Lot 13 SP178466, with a small section of the Haul Road on Lot 4 SP252740. Both lots are within the Wotonga pastoral lease (cattle property). The Project site is predominantly flat with sporadic rocky outcrops/hills that are ironstone/laterite 'jump-ups' or plateaus. Extensive areas have been previously cleared for cattle grazing. Two ephemeral creek systems cross the Project site and flow during periods of heavy rain. The dominant vegetation types are Poplar Box (*Eucalyptus populnea*) woodlands on flat areas, with Lancewood (*Acacia shirleyi)* open forest on the ironstone/laterite 'jump-ups' and Queensland Blue Gum (*Eucalyptus tereticornis*) woodlands along the creek systems.

4.2 BioCondition Methodology

The methodology undertaken to assess the BioCondition of the impact areas in the project site is detailed in the BioCondition Assessment Report (see *Appendix A*).

The assessment consisted of a desktop and literature review, followed by field surveys.

Nineteen habitat quality assessment sites were established for the BioCondition assessments within the Project impact area. The field survey was performed in accordance with the *Guide to Determining Terrestrial Habitat Quality* version 1.2 (Queensland Government, 2017) (Queensland Habitat Quality Guide). This is based on the methodology set out in the *BioCondition Assessment Manual* (Eyre et al., 2015) and *BioCondition benchmarks for the Brigalow Belt Bioregion* developed by the Queensland Herbarium. The Queensland Habitat Quality Guide sets out the number of plots to be assessed based on the area of vegetation/RE, recommending of minimum of two plots for areas below 50 ha.

Many of the patches of the nine REs within the impact area occur as small fragments all of which are less than 50 ha. One RE (11.4.7) has an impact area of approximately 0.01 ha and was too small to assess with a 0.5 ha plot. RE 11.3.2 was only disturbed at a single location and therefore only a single plot could be located in this RE. Three plots were located within RE 11.7.2 and five plots were located in the most widespread RE, being RE 11.5.3. For the two plots located within RE 11.4.9, one was in regrowth and the other in remnant vegetation as only a single area of each will be impacted. REs 11.3.4, 11.3.25, 11.5.9 and 11.9.7 each had two plots located within them.[4] Some plots were partially located outside the impact area, due to the small impact area for those REs. The impact area patches that were not surveyed were visited to confirm that condition was similar to the areas surveyed. On average, the number of plots was one plot for every 4.4 ha of impacted vegetation.

The number of plots based on the area of vegetation proposed for clearing are detailed at Table 2.1 in the BioCondition Assessment Report. Each plot was numbered with a P (for Project site) and a sequential number.

4.2.1 Habitat Quality Score Calculation Methodology

The DoEE EOP and *How to Use the Offsets Assessment Guide* do not provide habitat quality survey guidelines or a methodology on how to calculate the habitat quality scores other than to state that

[4] Table 2.2, PROJECT IRONBARK, BioCondition Assessment Report, the proponent: Hansen Bailey, January 2019, Final Report

the habitat quality score must consider site condition, site context and species stocking rate. Therefore, the habitat quality scores were calculated as follows.

Habitat quality attribute scores were determined using the biocondition methodology, in accordance with the *Guide to determining terrestrial habitat quality. A toolkit for assessing land based offsets under the Queensland environmental Offsets Policy* (Version 1.2, April 2017). All biocondition attributes were assessed against the biocondition benchmarks published by the Queensland Herbarium. The species habitat index scores from the *Guide to determining terrestrial habitat quality* were re-categorized by DoEE and the category totals weighted in the manner explained below (with a total habitat quality score out of 10):

- For Brigalow TEC:
    - converting the total score from the site condition scoring elements (Table 2 of the Guide) into a score out of 7, and
    - converting the total score from site context scoring elements (Table 3 of the Guide) into a score out of 3. The "Distance to permanent watering point" was excluded from this assessment and "Threats to the TEC" and "Role of site location to TEC overall population in the State" were added. These new elements were similar to but not identical to the values in Table 4 of the Guide. In the absence of any definitions, the scores for these new elements were based on negotiations with DoEE.
- For Squatter Pigeon (southern) habitat:
    - converting the total score from the site condition scoring elements (Table 2 of the Guide) plus the scores for "Quality and availability of food and foraging habitat" and "Quality and availability of shelter" (from Table 4 of the Guide) into a score out of 3,
    - converting the total score from site context scoring elements (Table 3 of the Guide) excluding "Distance to permanent water point" and adding the new elements "Species mobility capacity", "Threats to species", into a score out of 3, and
    - DoEE provided a species stocking rate assessment which included elements for "Presence detected on or adjacent to site", "Species usage of the site", and "Role/importance of the species population on site". The "Role/importance of the species population on site" element was broken down into the following sub-elements "Key source population for breeding", "Key source population for dispersal", "Necessary for maintaining genetic diversity" and "Near the limit of the species range". The species stocking rate had a score out of 4.

The scoring tables for both impact and offset areas are provided in Schedule 3. All future quality score commitments and performance indicators for the offset area have also been expressed using the above habitat quality methodology.

The habitat quality scores in *Table 5* summarise the findings of the scoring process outlined above, and were used to determine a suitable offset area.

Table 5: Impact area and protected matters

Protected matter	Vegetation	Impact area (ha)	Habitat quality score (out of 10)
Brigalow TEC *(Acacia harpophylla dominant and co-dominant)*	Remnant RE - 11.4.9	7.9	7
	Regrowth RE - 11.4.9	1.3	5
	Total	**9.2**	-
Squatter Pigeon (Southern) (Geophaps scripta scripta) *Breeding habitat*	Remnant - 11.7.2, 11.5.3, 11.3.4, 11.3.25, 11.5.9, 11.3.2	57	7
	Regrowth	0	-
	Total	**57**	-
Squatter Pigeon (Southern) (Geophaps scripta scripta) *Foraging habitat*	Remnant REs – 11.7.2, 11.5.3, 11.5.9, 11.3.4, 11.4.9, 11.3.25, 11.9.7,	24.7	6
	Regrowth RE – 11.4.9	1.3	5
	Total	**26**	-

5. Proposed Offset area

5.1 Overview of offset property – 'Brigalow'

The ecologists surveyed an area larger than was ultimately required for the offset. The surveyed area is located on the property 'Brigalow', which is located approximately 160 km south-east from the Project impact area (see *Figure 1* and *Figure 2*), within the Brigalow Belt bioregion.

The surveyed area, indicated in *Figure 3,* is only approximately 300 m north of an anabranch of the Isaac River. The surveyed area has a stream order 3 on its northern section. Stockyard Creek, a 4th order stream, flows through the central part of the surveyed area, supporting permanent water holes providing suitable areas to support Squatter Pigeon breeding habitat. Areas of Brigalow regrowth (RE 11.3.1 and 11.4.9), which do not meet the TEC criteria, are in the northern section of the surveyed area. The majority of the surveyed area selected for the offset area supports regrowth Coolabah (RE 11.3.3) and regrowth Poplar Box (RE 11.4.2).

There are no resource sector exploration or production permits over this property.

The offset area is situated on Lot 6 RP860051 and consists of regrowth REs 11.3.3 (Coolabah), 11.3.1 (Brigalow), 11.3.4 (Queensland Blue Gum) and 11.4.2 (Poplar Box) with a small area of remnant RE 11.3.25 (Queensland Blue Gum) along Stockyard Creek (see field verified vegetation in *Figure 3*). Stockyard Creek, stream order 4, drains to the west to an anabranch of the Isaac River (stream order 7) and accounts for the large areas of alluvial soils (land zone 3) present within the offset area.

With respect to connectivity of the offset area, there is good connection to riparian areas, and other protected offset areas. As the regrowth areas between the riparian areas rehabilitates, the quantity and quality of habitat for these species will increase from the core riparian vegetation areas. These areas also form corridors between other offset areas and the Isaac River, which is a state significant biodiversity corridor.

The Coolabah, Queensland Blue Gum and Poplar Box areas have been selected due to the presence of sandier topsoil, which is preferred habitat for the Squatter Pigeon for nesting. The area of RE 11.3.1 regrowth Brigalow that occurs in the northern section of the offset area is considered breeding and foraging habitat for the Squatter Pigeon and is also the location of the offset for the Brigalow TEC.

Figure 2: Ironbark and 'Brigalow' location map

Figure 3: Field verified vegetation within the overall offset investigation area

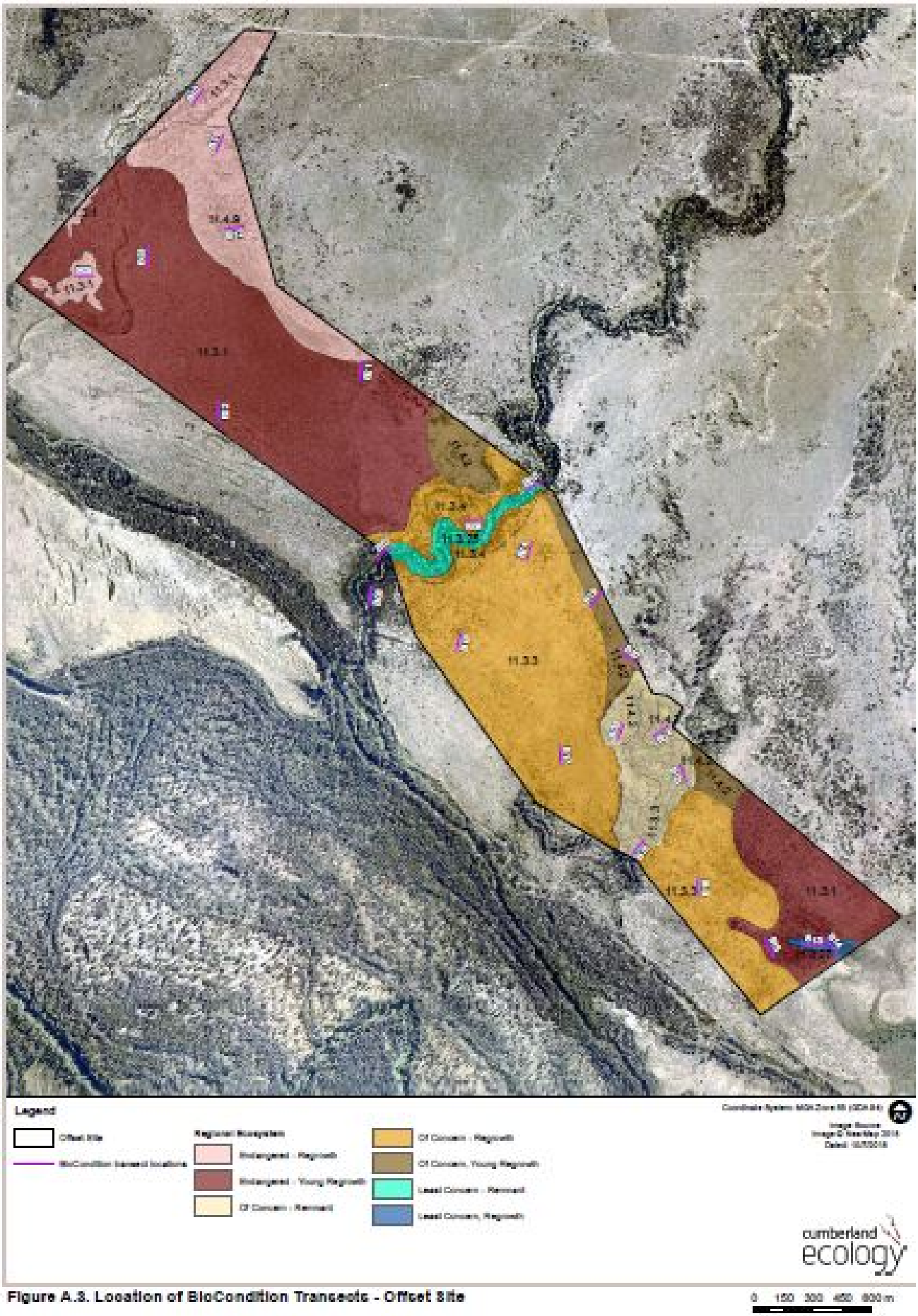


Figure A.3. Location of BioCondition Transects - Offset Site

Figure 4: Brigalow TEC offset area

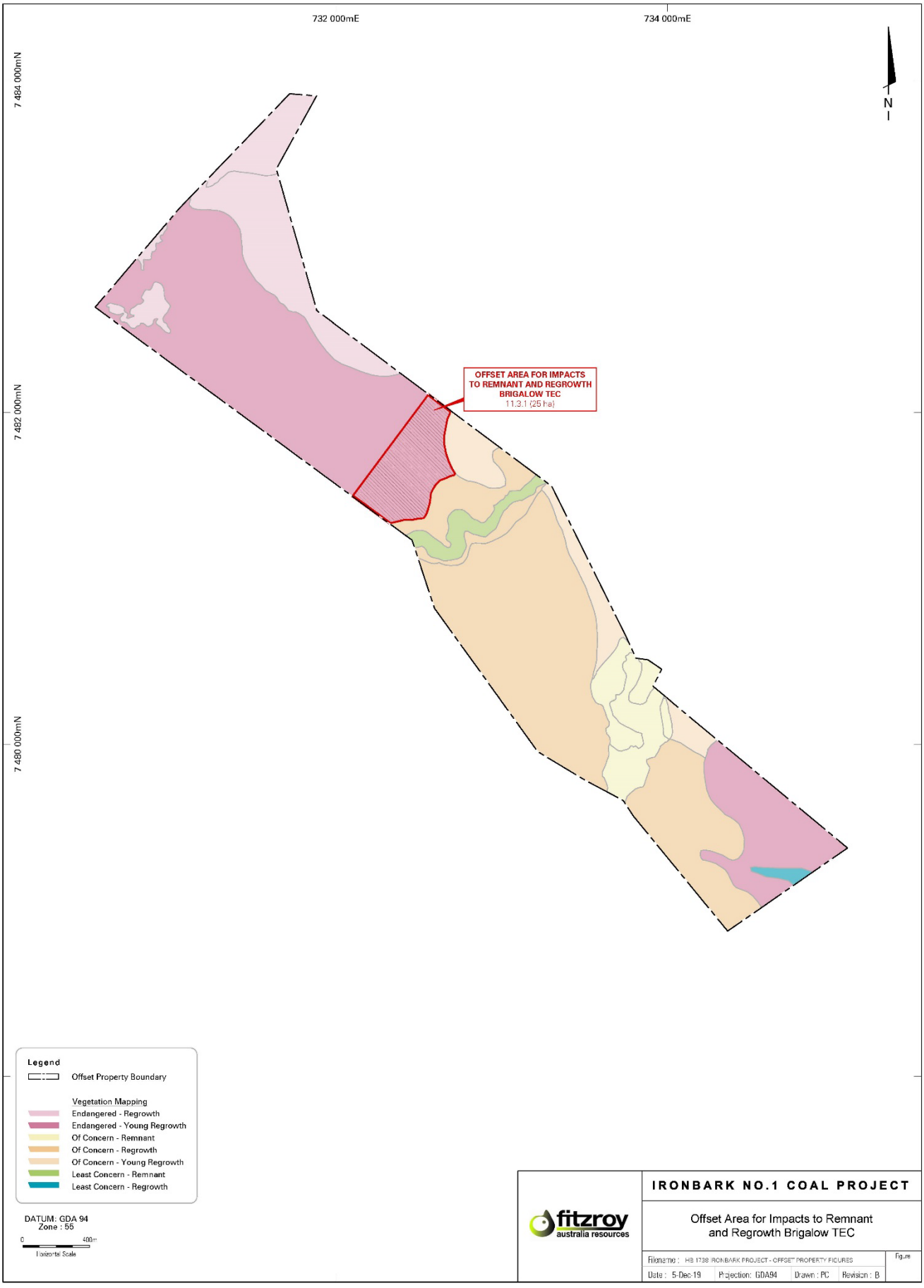


Figure 5: Squatter Pigeon breeding offset area

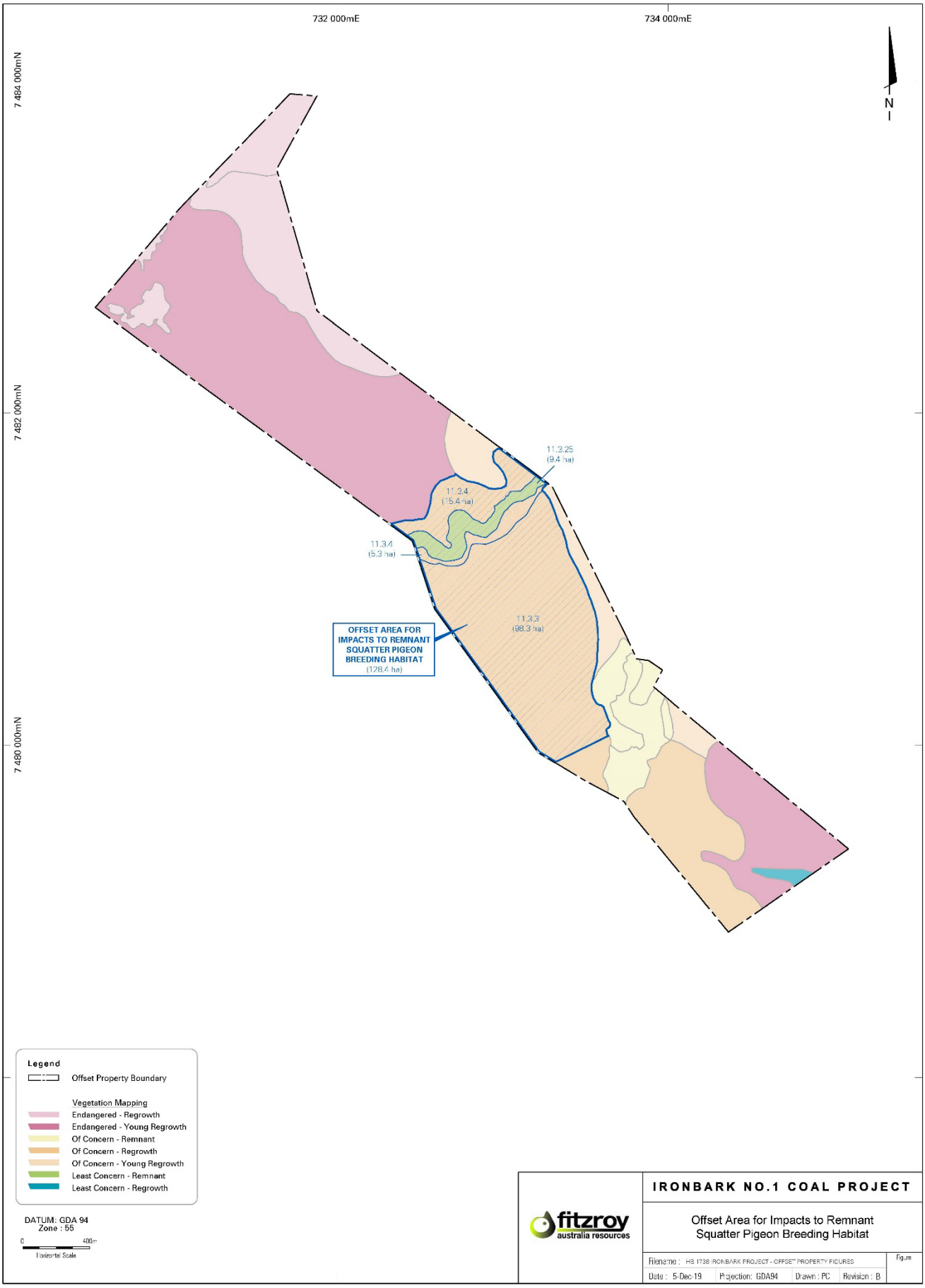
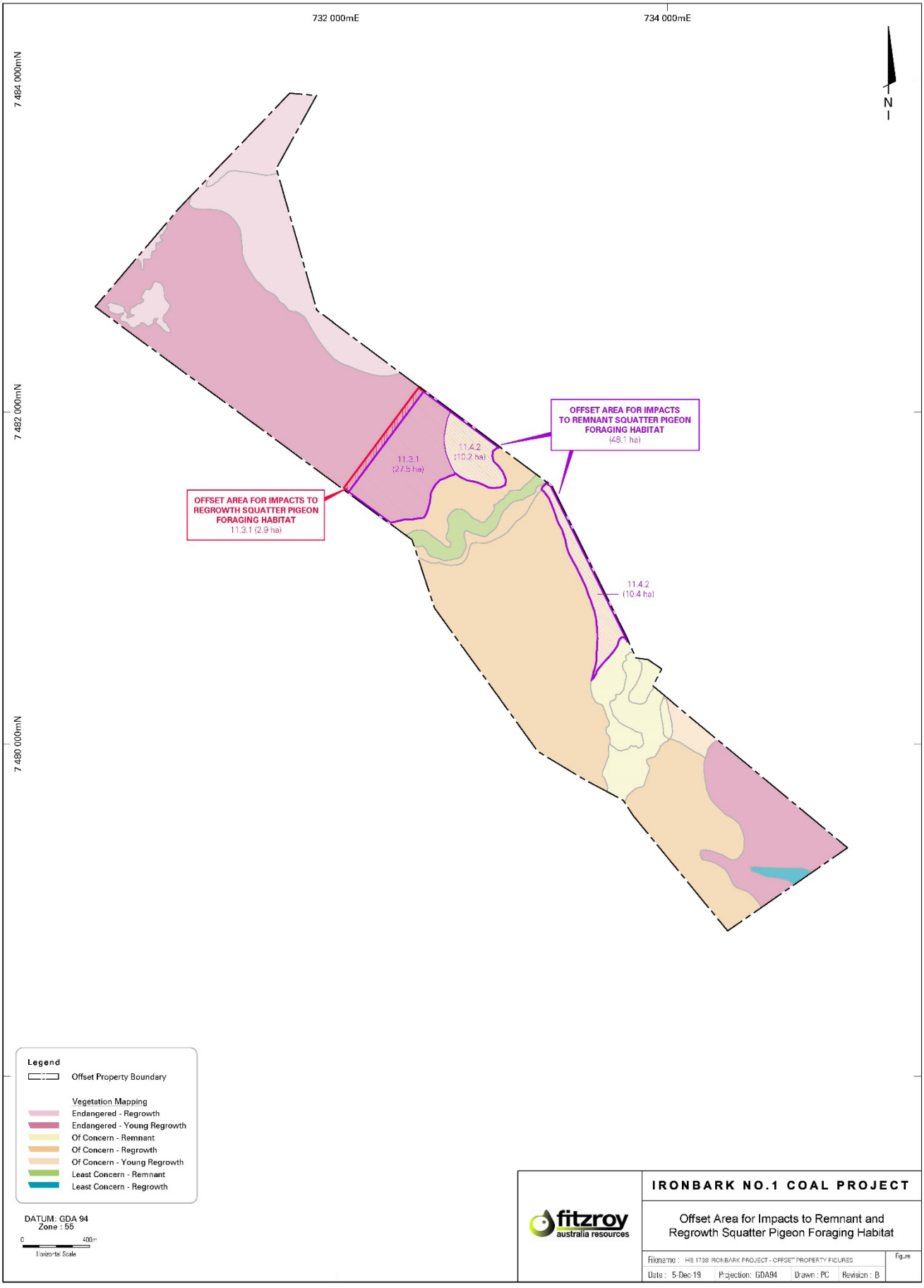


Figure 6: Squatter Pigeon foraging offset area



5.2 Clearing and development history

Initial clearing, based on historical photos, happened between 1953 and 1956 (see *Plate 1*) with the area between the Isaac River and anabranch being predominantly allowed to regrow. This area has now returned to remnant vegetation with the balance areas retained as regrowth and improved pasture.

Significant development on 'Brigalow' was undertaken during the Brigalow Development Scheme, particularly between the years of 1966 and 1975. *Plate 2* illustrates the extent of vegetation on the offset area at that time (1978). The re-clearing of regrowth after the initial development phase is part of the recognised and regionally accepted practice for maintaining a grazing enterprise in the Brigalow Belt bioregion. As such, the cycle of woody weed control via herbicide treatment, scrub chaining, raking and burning of the wood piles and the subsequent over-sowing with buffel pasture is the cycle that is being interrupted with the establishment of the offset.

Re-clearing is undertaken approximately every eight years. The process usually involves using two bulldozers and a chain to 'pull' the vegetation, followed by burning and then raking the woody material. The offset area was substantially re-cleared and oversown with buffel grass between 1989 and 1990. The subsequent clearing cycle has been to re-chain and burn every seven to eight years (i.e. was cleared between 1999 and 2008) and is guided by seasonal conditions. The regrowth areas were to be re-cleared using herbicide applied via aerial application in 2018; however, this has been deferred pending offset negotiations. A summary is below and detailed in *Attachment 1*.

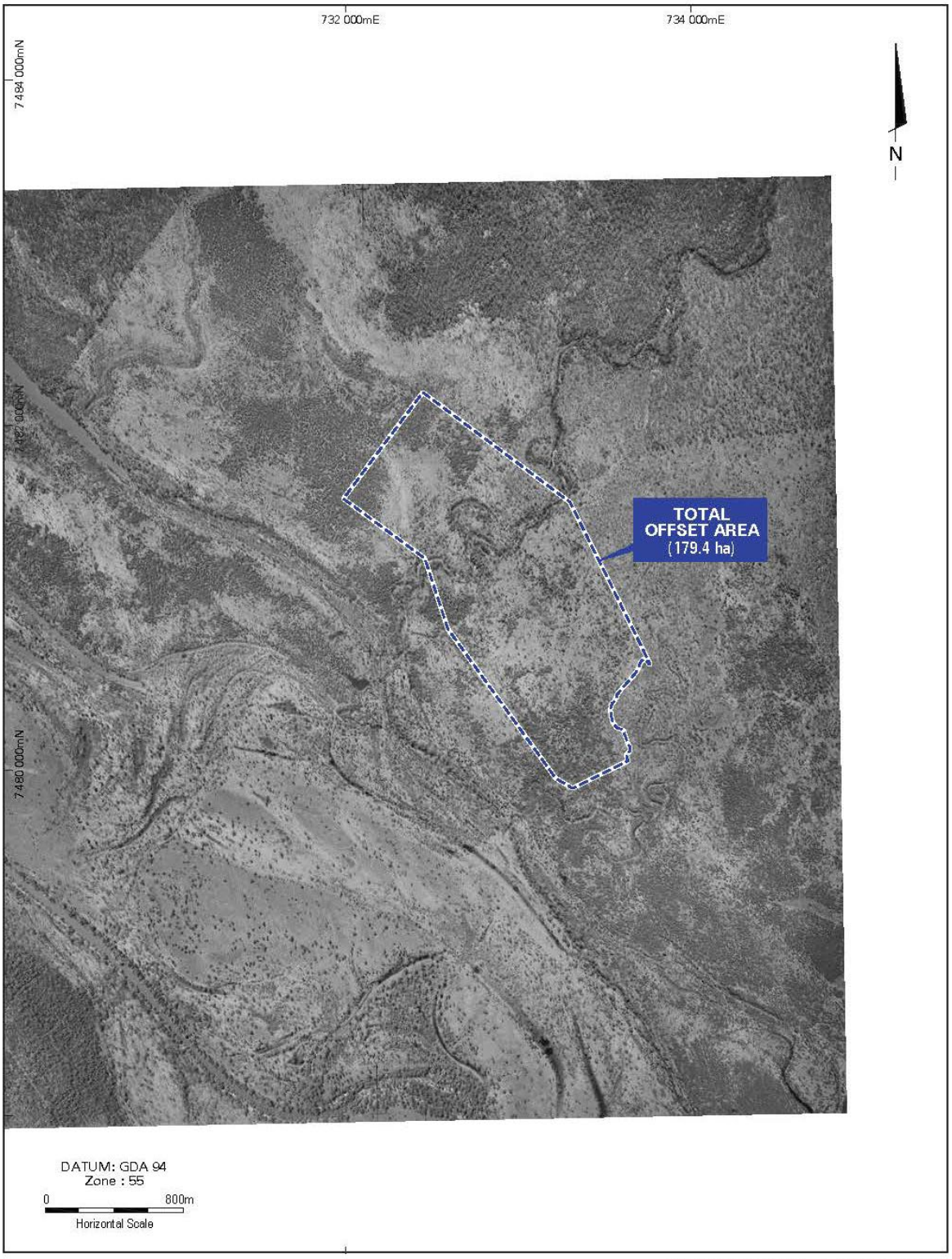
Since the purchase of the property by the current landholders in January 2004, the following growth control management has been undertaken:

- 17/01/2005 Regrowth pulling Box, Windmill, Sucker Paddocks
- 11/07/2005 Regrowth pulling Box, Windmill Paddocks
- 29/11/2005 Graslan Steer Paddock
- 23/12/2005 Regrowth pulling Sucker, North River Paddock
- 02/03/2007 Regrowth pulling Box Paddock
- 23/04/2009 Regrowth pulling Dozer
- 27/08/2009 Graslan North River, Sucker Paddocks
- 19/12/2014 Regrowth pulling Brigalow

In the remnant areas, the practice of burning of the undergrowth and fallen woody debris is undertaken and is aligned with the re-clearing of the regrowth areas (i.e. every seven to eight years). Fire is used to thin the understorey and to reduce the amount of timber on the ground. The remnant area is scheduled for re-burning, with the regrowth areas to increase grazing capacity and to reduce the amount of timber on the ground.

Plate 3 (dated 1985) and *Plate 4* (dated 2006) demonstrate the cleared nature of the offset area, prior to, and at time of introduction of the EPBC Act in 2000, and the recurring maintenance to retain the pasture state. This supports the proponent's understanding that the landholder can legally clear for grazing as a continuing use practice under Sections 43B of the EPBC Act – 'Continuing Use'.

Plate 1: Aerial imagery of the offset area location, dated 1956



IRONBARK NO.1 COAL MINE

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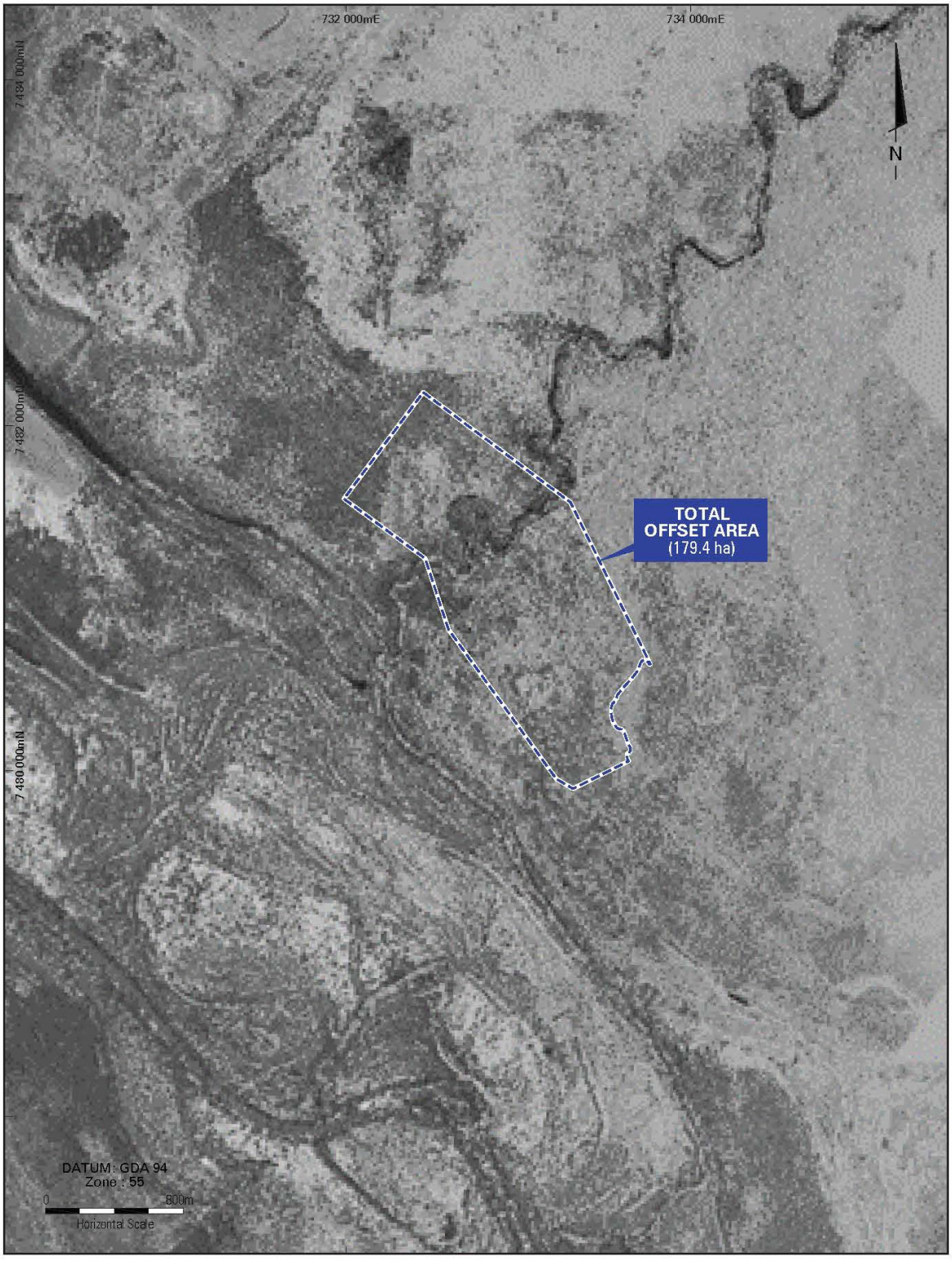
Total Offset Area - 1956

FIGURE 2

Plate 2: Aerial imagery of the offset area, dated 1978



IRONBARK NO.1 COAL MINE

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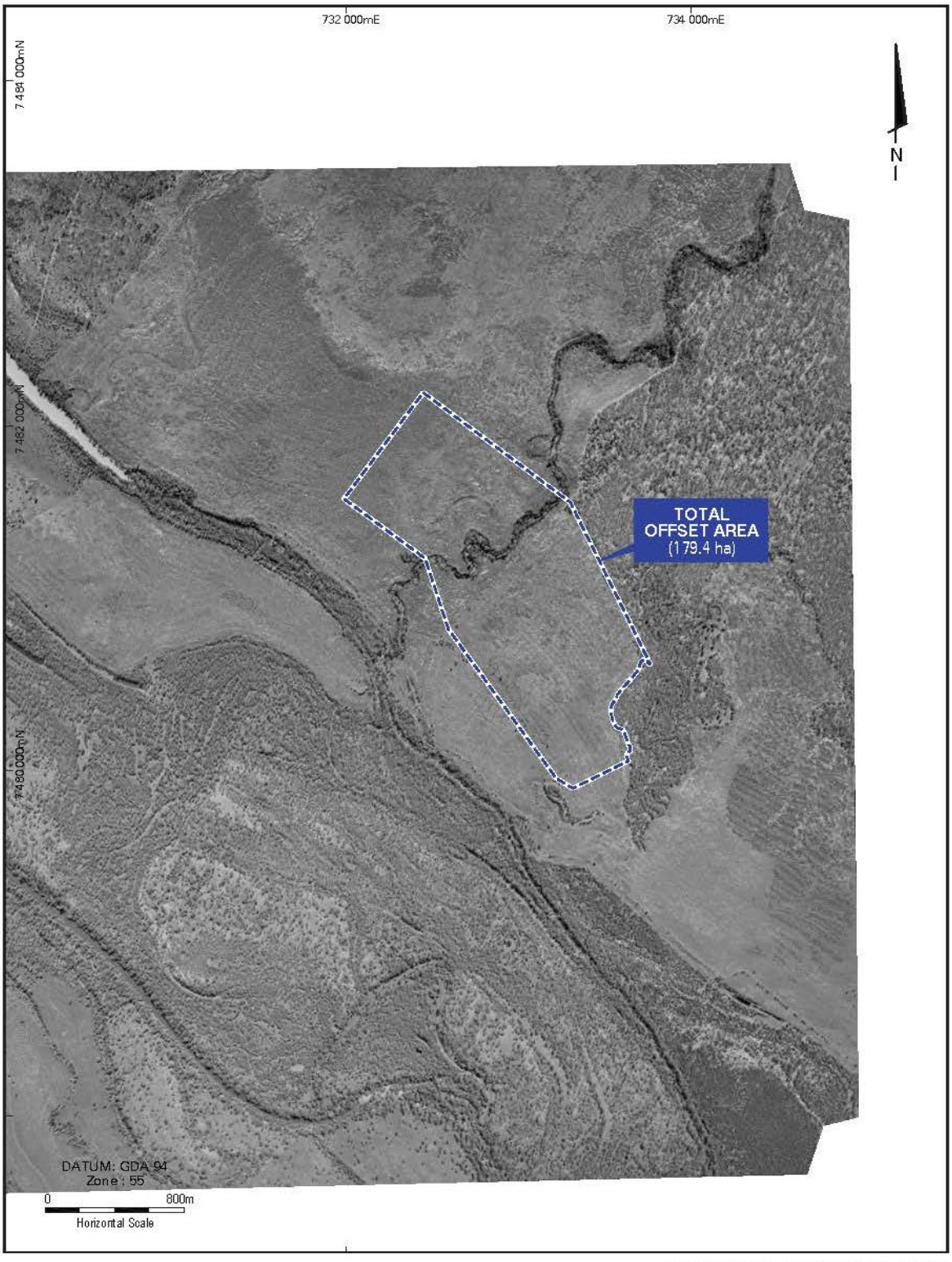
Total Offset Area - 1978

FIGURE 3

Plate 3: Aerial imagery of the offset area, dated 1985



IRONBARK NO.1 COAL MINE

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Total Offset Area - 1985

FIGURE 4

Plate 4: Aerial imagery of the offset area, dated 2006

IRONBARK NO.1 COAL MINE

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Total Offset Area - 2006

FIGURE 5

Plate 5: Aerial imagery of the offset area, Qld Globe

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Total Offset Area - Qld Globe

FIGURE 6

5.3 The prior authorisation and continuing use exemptions

Sections 43A and 43B of the EPBC Act exempt certain actions from the assessment and approval provisions of the EPBC Act. They apply to lawful continuations of land use that started before 16 July 2000 or actions that were legally authorised before 16 July 2000, the date of commencement of the EPBC Act.

These exemptions allow for the continuation of activities that were fully approved by state and local governments before the EPBC Act came into force ('prior authorisation'), or otherwise lawful, that commenced before the EPBC Act came into force, and which have continued without substantial interruption ('continuing uses'). The proponent understands that the landholder can legally clear the land for grazing.

Under the continuing use exemption, assessment and approval under the EPBC Act is not required if:

- the action commenced before 16 July 2000; and
- the use of land, sea or seabed was lawful; and
- the action has continued in the same location without enlargement, expansion or intensification.

The clearing has been halted during negotiations for the offset area. Re-clearing (via the use of chemical application of Graslan) of the offset area and the subsequent destruction of the habitat of canopy cover for shelter, native pasture species and forbs and the microhabitat of fallen woody debris, the effects of which usually lasts approximately 15 years [5], have not been undertaken in 2018. Oversowing with buffel pasture would have been undertaken at the same time with the resultant increase in pasture availability to support a return to the previous higher carrying capacity and the ability to use hot fires for woody regrowth suppression in later years.

The current cycle of development on the property "Brigalow" was delayed for a number of years over the last decade due to the combined economic forces of several years of lower than average rainfall and low commodity prices (beef). The return to better rainfall conditions over the last few years and an increase in commodity prices has enabled the development cycle to continue with the offset area having been planned for control measures in 2018. The landowner has advised, in writing, that in the event that the proponent does not exercise its option to enter into an offset agreement with the landowner, the regrowth vegetation within the offset area will be cleared immediately.

5.4 Additional management and protection

Establishing an offset area on the proposed area would add additional protection for biodiversity values from clearing and provide additional biosecurity management.

In relation to clearing, as outlined in Section 5.3 the regrowth vegetation on the offset site is not, as the proponent understands it, protected under the EPBC Act. Under the VMA, the offset site is exempt from requiring a state development permit for clearing regrowth vegetation as the site (bar the remnant riparian vegetation) is mapped as Category X. The remnant, riparian vegetation areas are protected from clearing under the VMA. However, even the remnant vegetation is still subject to burning for the removal/thinning of undergrowth vegetation and fallen woody debris. The VMA does

[5] *Tropical Grasslands,* Tropical Grasslands Society. (2009) Volume 43, 37-52

not require that landholders maintain the existing condition of regulated vegetation or fauna habitat areas. Establishing the offset would therefore provide additional protection and management for both remnant and the regrowth vegetation on site.

The *Biosecurity Act 2014* (Qld) imposes a 'general biosecurity obligation' on all Queenslanders to manage biosecurity risks that area under their control and that they know about or could reasonably be expected to know about.[6] In practical terms, this means that:

- If you are a livestock owner, you are expected to stay informed about pests and diseases that could affect or be carried by your animals, as well as weeds and pest animals that could be on your property. You are also expected to manage them appropriately.
- If you are a landowner, you are expected to stay informed about the weeds and pest animals (such as feral dogs) that could be on your property. You are also expected to manage them appropriately.

The *Biosecurity Act 2014* (Qld) assigns the pests identified in the offset area as Restricted Matters in Categories 3-6 and requires management as described in *Table 6*.

Table 6: Biosecurity Act 2014 *(Qld) obligations*

Category	Requirements	Examples
3	Must not distribute, be traded or released into the environment	Most invasive weeds, pest animals, noxious fish
4	Must not move	Certain weeds, pest animals, noxious fish such as feral pigs, feral deer, rabbits, Hudson pear and jumping cholla cactus.
5	Must not possess or keep	Rabbits, carp, bunny ears cactus
6	Must not feed (except if undertaking a control program)	Feral deer, wild dogs, rabbits, foxes, noxious fish (tilapia, gambusia)

The obligations in the OMP are additional to these general *Biosecurity Act 2014* (Qld) obligations. For example, there is a requirement to control wild pigs if numbers in excess of 12 are observed in any one property inspection. This is above and beyond the requirements of the Biosecurity Act as is the reduction of weed species to less than 10% weed cover within the offset area over the life of the management plan.

The Isaac Regional Council identifies the offset area as Rural in its planning scheme and does not restrict the current land-use. The Council has no Biosecurity Plan, referring only to the *Biosecurity Act 2014* (Qld).

5.5 Efficient, effective, transparent, scientifically robust and reasonable

The actions to be implemented in the offset area are efficient, effective, transparent, scientifically robust and reasonable as described below:

- Efficient: The offsets provide a maximum outcome (i.e. additional Brigalow TEC and higher quality Squatter Pigeon breeding and foraging habitat) for a reasonable amount of management measures over a reasonable timeframe (20 years). The offset is timely as it will be legally secured within 2 years of the commencement of the Project impacts as per Condition 7 of the EPBC Act approval.

[6] See https://www.daf.qld.gov.au/business-priorities/biosecurity/policy-legislation-regulation/biosecurity-act-2014/general-biosecurity-obligation

- Effective: The offset is effective because it provides legal protection over and above the existing Commonwealth and State legislation. The management measures are common and effective (for example excluding stock to prevent pugging and trampling of Squatter Pigeon nests) and address the key threats identified within the Conservation Advices (see *Table 4* for more detail).
- Transparent: The offsets scale and suitability are transparent, as they have been calculated using the EPBC Offset Assessment Guide (see *Schedule 2*).
- Scientifically robust: The BioCondition Assessment Report provides the scientific rigour for the habitat quality inputs and the management measures align with the Brigalow TEC and Squatter Pigeon Conservation Advice and Threat Abatement Measures.
- Reasonable: The offset is of a reasonable size and the management measures are reasonable in order to ensure the timely success of the offset.

5.6 Ecological values and suitability as an offset

5.6.1 Offset area landscape values

The offset area was selected as it adjoins areas of regulated vegetation associated with Stockyard Creek and the anabranch of the Isaac River. Utilising the regrowth vegetation as an offset will add significant value to this area and, as the regrowth matures and meets the TEC/remnant vegetation criteria, will extend the area of the Brigalow TEC and available high quality habitat for the Squatter Pigeon. The offset will also assist in landscape connectivity and context by buffering the existing regulated vegetation.

Connectivity of the offset area is enhanced as it is adjacent to other potential offset areas totalling approximately 400 ha. These offsets for other projects are for impacts to Brigalow TEC, Koala, Ornamental Snake, Greater Glider and Squatter Pigeon. Once finalised, the combined area will connect to the anabranch of the Isaac River and in turn to the Isaac River state significant biodiversity corridor.

5.6.2 Offset area start values

The results of the habitat quality assessments of the different vegetation communities that occur within the offset area are summarised in *Table 1*. The field sheet data is provided within the ecology report at *Appendix A*. The DoEE approved individual attribute scores (i.e. approved baseline values), which make up the total habitat quality scores, are provided in *Schedule 3*.

5.6.3 Brigalow TEC

Brigalow TEC occurs within Queensland and New South Wales. *Acacia harpophylla* (Brigalow) is a distinctive silver-foliaged shrub or tree. It is commonly the dominant species in a range of open forests and woodlands; these are collectively referred to as Brigalow woodlands.

The Brigalow TEC is characterised by the presence of *A. harpophylla* as one of the most abundant tree species (Butler, 2007). *A. harpophylla* is either, dominant in the tree layer, or co-dominant with other species – notably *Casuarina cristata* (Belah), other species of Acacia, or species of Eucalyptus. Occasionally these other species may be more common than *A. harpophylla* within the broad matrix of Brigalow woodland vegetation. 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 (Isbell, 1962; Johnson, 1964; Bui and Henderson, 2003). However not all vegetation in which *A. harpophylla* is dominant or co-dominant is part of the listed TEC (see section 1.7.3. of the Excluded Queensland REs in the Brigalow TEC Approved Conservation Advice).

In Queensland, the Brigalow TEC is defined based on the RE framework used for biodiversity planning (Sattler and Williams, 1999; Queensland Herbarium, 2013) and the key diagnostic characteristics and condition thresholds described in the Brigalow TEC Approved Conservation Advice.

5.6.4 Brigalow TEC – offset area attributes

Consistent with the TEC diagnostic characteristics outlined in the Commonwealth Conservation Advice, the regrowth Brigalow present in the offset area was confirmed to be consistent with the floristic composition required, although it did not meet all the diagnostic criteria due to immaturity of the vegetation stands. Brigalow species were determined to be dominant/co-dominant in the emerging tree layer and the vegetation was found to be analogous to RE 11.3.1, one of the 12 Brigalow TEC listed REs for the Brigalow Belt region. Impacts to the Brigalow TEC will be offset with 25ha of regrowth (non-TEC) Brigalow (RE 11.3.1).

5.6.5 Squatter Pigeon

A Squatter Pigeon was detected adjacent to the offset area during the field survey site and this species has previously been recorded in the floodplain woodland on the neighbouring property 'Clive' (Black *et al*. (undated)). The severe flooding of the Isaac River floodplain that occurred after Cyclone Debbie in 2017 (twelve months prior to the survey) may have affected the local population. There are seven records of Squatter Pigeon within 20 km of the offset area since 1980 in the Queensland Government Wildlife Online database, and four records of Squatter Pigeon within 20 km of the offset area in the Atlas of Living Australia database. The field survey results, together with the general scarcity of records, suggests that Squatter Pigeon occurs at low densities in remnant and regrowth vegetation across the offset area. Permanent waterholes present in the floodplain woodlands provide suitable permanent water sources and a dry-season refuge for Squatter Pigeon.

5.6.6 Squatter Pigeon – offset area attributes

Impacts to remnant Squatter Pigeon breeding habitat will be offset with 9.4ha of remnant vegetation (RE 11.3.25), and 119ha of regrowth vegetation (20.7ha of RE 11.3.4 and 98.3ha of RE 11.3.3). Impacts to remnant Squatter Pigeon foraging habitat will be offset with 20.6ha of regrowth RE 11.4.2 and 27.5ha of regrowth RE 11.3.1. Impacts to regrowth Squatter Pigeon foraging habitat will be offset with 2.9ha of regrowth RE 11.3.1. The Squatter Pigeon is known to associate with these vegetation communities in the region (Ecoserve, undated) and these are consistent with the habitat definitions in the Conditions of Approval[7]. The regrowth areas are expected to become higher quality Squatter Pigeon habitat over time by implementing appropriate land management practices that will allow natural regrowth and succession to occur. This will enable the establishment of a canopy layer, decreased exotic groundcover and the management of risks associated with inappropriate grazing and fire regimes.

[7] Variation of Conditions Attached to Approval, Ironbark No. 1 Underground Coal Mine (formerly known as Ellensfield), North Bowen Basin, Queensland (EPBC 2007/3643)

6. Offset Completion Criteria and Performance Targets

6.1 General description of anticipated outcomes

In accordance with the EPBC Act Environmental Offsets Policy, the offset must deliver an overall conservation outcome that improves or maintains the viability of the MNES as if the action had never taken place. Therefore, in accordance with the EOP, the final habitat quality score (or the Offset Completion Criteria) at the offset site must be equal to or greater than the habitat quality score of the impact site.

The implementation of management measures identified in *Table 10* will enable the offset area to improve the baseline ecological attributes, thus meeting and maintaining the completion criteria required of the offset. The annual reports will provide transparency regarding how the site management measures are being implemented, and where relevant, identify any force majeure events impacting the offset area, and any non-compliance with the management plan.

The final habitat quality scores for the offset area are detailed in *Table 1* and *Table 7*. Also provided in *Table 7* are interim target values that describe a possible path of enhancement to reach the final habitat quality scores. These interim target values are to help assist the management and improvement of the offset area and offset management measures. They are not criteria under the EPBC Act or OMP that are required to be met. However, not meeting the interim criteria will trigger adaptive management and the landowner will apply various mitigation measures (described in *Section 9*) to try and improve the habitat quality faster. The need for additional mitigation measures will be addressed during the annual compliance reporting of the OMP.

Table 7: Interim habitat quality values and completion criteria

Impacted MNES	Offset Area	Starting Habitat Quality	Interim Values			Final Habitat Quality/ Completion Criteria (Year 20)
			Year 5	Year 10	Year 15	
Remnant Brigalow TEC	Regrowth (non-TEC) RE 11.3.1	4	5	6 - Brigalow more than 15 years old	6	7
Regrowth Brigalow TEC	Regrowth (non-TEC) RE 11.3.1	4	5	6 - Brigalow more than 15 years old	6	7
Remnant Squatter Pigeon Breeding Habitat	Remnant RE 11.3.25	6	6	6	7	7
	Regrowth RE 11.3.4	5	5	6	6	7
	Regrowth RE 11.3.3	5	5	6	6	7
Remnant Squatter Pigeon Foraging Habitat	Regrowth RE 11.4.2	4	4	5	5	6
	Regrowth RE 11.3.1	4	4	5	5	6
Regrowth Squatter Pigeon Foraging Habitat	Regrowth RE 11.3.1	4	4	5	5	5

Note that these scores will be calculated using the same methodology as the start condition scores detailed in Section 4.2.

The below discussion outlines how the approval holder proposes to achieve the offset outcomes, at the time of submitting the OMP for approval. The completion criteria are to achieve the final habitat scores for each MNES, as calculated using the scoring method described in Section 4.2 and as provided in *Table 7*. The specific attributes of site condition, site context and species stocking rate that will be used to achieve the final habitat score may be varied from the below description by the approval holder, provided the calculation method remains as per Section 4.2 and the final habitat quality/completion criteria scores remain as per *Table 7*.

At the time of the initial BioCondition survey (September/October 2018) the following regrowth REs were approximately 5 years old: 11.3.1, 11.4.2, 11.3.3. The regrowth RE 11.3.4 was between approximately 6 – 10 years old.

It is anticipated that the management measures described in *Section 9* will result in the regrowth Brigalow being over 15 years old and having less than 50% exotic perennial plant cover by year 10 of the offset. The Brigalow will mature and improve in habitat quality which are likely to be reflected in increased BioCondition scores for 'Recruitment of Woody Perennial Species', 'Tree Canopy Height', 'Tree Canopy Cover', 'Organic Litter', 'Large Trees', 'Coarse Woody Debris', 'Threats to TEC'.

Squatter Pigeon breeding habitat is defined in the Ironbark No. 1 EPBC Act approval (variation dated 7 June 2019) as '*grassy woodland habitat in RE on land zones 3, 5 or 7 which are either within 1 km of a permanent water body; or within 1 km of a Queensland Government mapped wetland or ≥3rd order stream'*. It is anticipated that with the management measures described in *Section 9*:

- Remnant RE 11.3.25 will improve in habitat quality which is likely to be reflected in increased BioCondition scores for 'Recruitment of Woody Perennial Species' , 'Native Plant Species Richness – Grasses and Forbs', 'Shrub Canopy Cover', 'Native Grass Cover', 'Organic Litter', and 'Coarse Woody Debris'.
- Regrowth RE 11.3.4 will improve in habitat quality which is likely to be reflected in increased BioCondition scores for 'Native Plant Species Richness – Grasses and Shrubs', 'Tree Canopy Height', 'Tree Canopy Cover', 'Shrub Canopy Cover', 'Native Grass Cover', 'Organic Litter Cover', 'Non-native Plant Cover' and 'Quality and Availability of Shelter'.
- Regrowth RE 11.3.3 will improve in habitat quality which is likely to be reflected in increased BioCondition scores for 'Native Plant Species Richness – Grasses and Shrubs', 'Tree Canopy Height', 'Tree Canopy Cover', 'Shrub Canopy Cover', 'Native Grass Cover', 'Large Trees', 'Coarse Woody Debris', 'Non-native Plant Cover', 'Quality and Availability of Food and Foraging Habitat', 'Quality and Availability of Shelter'.

Overall, the increases in BioCondition scores will increase the quality of the Squatter Pigeon breeding habitat by improving the regrowth vegetation into remnant vegetation, improving the quality of the grassy areas and woodlands, and decreasing the weed cover.

Squatter Pigeon foraging habitat is defined in the Ironbark No. 1 EPBC Act approval (variation dated 7 June 2019) as '*any remnant or regrowth open-forest to sparse, open-woodland or scrub dominated by Eucalyptus, Corymbia, Acacia or Callitris species, on sandy or gravelly soils, within 3 km of a suitable, permanent or seasonal waterbody*'. Therefore, it is anticipated that with the management measures described in *Section 9*:

- Regrowth RE 11.4.2 will improve in habitat quality which is likely to be reflected in increased BioCondition scores for nearly every attribute.
- Regrowth RE 11.3.1 will improve in habitat quality which is likely to be reflected in increased BioCondition scores for nearly every attribute.

Overall, these improvements in BioCondition scores will increase the quality of the Squatter Pigeon foraging habitat by improving regrowth vegetation into remnant vegetation, improving the quality of the woodlands and scrub, and decreasing the weed cover.

6.2 Determining whether completion criteria have been met

The completion criteria are expressed as overall habitat quality scores that reflect the sum of on the ground, individual attribute measurements. This creates flexibility in how the final habitat quality/completion criteria are achieved, as each completion criteria score is the sum of numerous attribute scores. Habitat quality scores will be determined using the Biocondition methodology in the manner described above at Section 4.2, and in accordance with the *Guide to determining terrestrial habitat quality: A toolkit for assessing land-based offsets under the Queensland environmental offsets policy* (Version 1.2, April 2017), unless agreed otherwise in writing by the Department. All biocondition attributes will be assessed against the biocondition benchmarks published by the Queensland Herbarium.

The completion criteria for this OMP will be met if:

- All offset areas as shown in Table 7 have achieved the required overall final habitat quality/completion criteria scores out of 10 shown in Table 7; and
- The project's EPBC Act approval has expired (i.e. after 1 August 2060).

The completion criteria for regrowth Brigalow communities will only be taken to be met if the following additional requirement to achieve Brigalow TEC status are achieved:

- All patches of Brigalow meet the definition and key diagnostic thresholds for the Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC under the EPBC Act including:
    - Each patch is more than 15 years old (; and
    - Each patch has less than 50% cover of exotic perennial plants; and
    - Each patch of Brigalow is 0.5ha or more in size; and
    - In each patch, *Acacia harpophylla* is either dominant or co-dominant in the tree layer; and
    - Each patch either meets the Queensland Government's description of RE 11.3.1 or the regrowth vegetation has the same species composition and structural elements broadly typical of RE 11.3.1 as it was described at the time of the national listing of the Brigalow ecological community under the EPBC Act.

The VDec over the offset site must not be removed, and the landholder, land manager, approval holder, and all other persons associated with the action must not seek to remove, nor consent to the removal of, the VDec from the offset site until after the approval has expired on 1 August 2060. This is a result of the EOP's requirement that offsets endure and be protected for the same duration as the impacts being offset. This prevents removal of the VDec until after the expiry of the EPBC Act approval.

7. Legally-binding mechanism

The offset will be secured via a VDec as an area of high conservation value under the VMA. Once this has been registered on the title, the offset area will be mapped as a Category A area on the Property Map of Assessable Vegetation (**PMAV**). An area mapped as Category A on a PMAV is described as an 'Area subject to compliance notices, offsets and voluntary declarations'.

Once this OMP is approved under the EPBC Act, it will be attached to the VDec, and management and monitoring of the offset area will be undertaken in accordance with the commitments in the OMP.

8. Risks Analysis

The following risks to achieving the management objectives and outcomes have been considered for the OMP:

- any real or potential risks associated with achieving the management objectives;
- the risk of, and remedial actions that might result from, failure to achieve the offset completion criteria;
- any real or potential risks associated with achieving the outcomes;
- the actions taken to minimise those risks; and
- remedial action that will be undertaken if any of the risks occur.

Risk has been assessed using the risk matrix provided in *Table 8*. The risk analysis is provided in *Table 9*.

Table 8 Risk matrix

Qualitative measure of likelihood (how likely is it that this event/circumstance will occur after management activities are implemented)	
Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances
Qualitative measure of consequences (what will be the consequence/result if the issue does occur)	
Minor	Minor incident of environmental damage that can be reversed (*e.g. short-term delays to achieving plan objectives, implementing low-cost, well-characterised corrective actions*)
Moderate	Isolated but substantial instances of environmental damage that could be reversed with intensive efforts (*e.g. short term delays to achieving plan objectives, implementing well-characterised, high-cost/effort corrective actions*)
High	Substantial instances of environmental damage that could be reversed with intensive efforts (*e.g. medium-long term delays to achieving objectives, implementing uncertain, high-cost/effort corrective actions*)
Major	Major loss of environmental amenity and real danger of continuing (*e.g. plan objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies*)
Critical	Severe widespread loss of environmental amenity and irrecoverable environmental damage (*e.g. plan objectives are unable to be achieved, with no evidenced mitigation strategies*)

		Consequence				
		Minor	Moderate	High	Major	Critical
Likelihood	Highly Likely	Medium	High	High	Severe	Severe
	Likely	Low	Medium	High	High	Severe
	Possible	Low	Medium	Medium	High	Severe
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Low	Medium	High

Table 9: Risk analysis

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
Force Majeure Events												
Bushfire (Moderate)	If unchecked, a moderate intensity fire may degrade some or all of the offset site, and increase related risks such as erosion.	Possible	High	Medium	In the event of a fire approaching the offset site, or actually occurring on site, the landholder will coordinate with relevant fire and emergency services. To reduce the likelihood of fire occurring, fuel loads will be managed and kept as low as practicable at all times, and firebreaks will be established and maintained. Fire will not be used as a tool for management. To prevent arson, only authorised persons will be permitted on site, and site access will be	Unlikely	Moderate	Low	Groundcover will be managed and kept as low as practicable at all times. Firebreaks established and maintained. No fire occurs.	Groundcover exceeds 60%. Fire impacts the offset site. Unauthorised access to the site is detected or notified to the approval holder or land manager.	If groundcover exceeds 60%, stock will be grazed on site only during November and December to reduce the groundcover. If fire impacts the offset site, the landholder holder will assess fire damage and provide a report to the Department within one month of the fire being extinguished. The approval holder and the Department will make best endeavours to reach agreement on appropriate remediation	Inspections by the land manager as per Table 11. Groundcover will be determined prior to November to determine if grazing is necessary. The land manager will also keep themselves advised of any fires in the region.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
					restricted through fencing and other barriers as appropriate.						approaches and goals. If fire impacts the offset site, the offset area will be destocked, fire breaks and control lines will be re-established. If unauthorised access to the site is detected (or notified to the land manager will, within two weeks, identify the means of access and repair fencing or other barriers as needed to prevent future access via that route.	
Bushfire (Severe/ Catastroph ic)	Catastrophic bushfire is considered highly unlikely, but has the capacity to delay the regeneration of ecological values at the	Rare	Critical	High	Catastrophic bushfire is not predictable, nor realistically preventable or mitigatable. Such fires are known to jump control lines easily, and hazard reduction	Rare	Critical	High	Nil.	If a catastrophi c fire occurs, the approval holder will work with the Departmen t to determine	If a catastrophic fire occurs, the approval holder will work with the Department to determine an appropriate response.	If a catastrophic fire occurs, the approval holder will work with the Department to determine an appropriate response.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
	site, and render regeneration unfeasible, as the site contains fire intolerant communities. Catastrophic fire late in the management period would also reduce the environmental improvements achieved at the offset site.				techniques are frequently ineffective. This risk is noted to enable a complete risk analysis, rather than to frame a management response					an appropriate response.		
Drought	The risk posed by drought is a decrease in groundcover, an increase in the likelihood of unplanned fire due to the dry conditions that could be started by lightning strike during storms and an increase in weed cover when rainfall	Likely	Moderate	Medium	Limited mitigations measures can be implemented. Should the offset be deemed by the approval holder or the Department to have been delayed, both parties will work together to determine an appropriate response.	Likely	Moderate	Medium	Achievement of 20 year completion criteria.	Drought declarations.	Allow offset area to recover post drought, particularly through the control of weeds as per the Trigger and Corrective actions detailed in *Table 10*. Exclude stock grazing until groundcover achieves at	The annual Offset Area Report will document vegetation condition and report on drought impacts.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
	is received. There would also be lower levels of growth expected. Depending on duration, severe drought may prevent realisation of the offset area's completion criteria within the 20 year period.										least 60% immediately prior to the annual grazing period. Within one month of forming a view that achievement of outcomes under the offset plan is likely to be delayed, write to the Department advising that this view has been formed. At the same time commence consultation with the Department regarding an appropriate response, and make all reasonable efforts to reach agreement.	
Cyclones/ Severe tropical lows / flooding	The most significant impact from tropical cyclones or	Likely	Moderate	Medium	Limited mitigation measures can be implemented.	Likely	Minor	Low	The subsequent monitoring event (as per Table 11)	Any incident of a cyclone or flood	As soon as is reasonably practicable and safe following the	The annual Offset Area Report will document vegetation

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
	tropical lows is typically flooding. Systems generally form between December and April.				The land underlying the offset site is relatively flat and may experience flooding from the nearby waterways. However, cyclones and/or severe tropical lows are relatively infrequent (though likely to occur at some point during the life of the offset). However, flooding is not expected to be of sufficient duration, and winds are not expected to be sufficiently severe, to cause substantial long-term harm to the site. Additionally, the increased availability of soil moisture following flood is expected to increase growth rates following flooding events, likely assisting natural repair of				will include a groundcover survey, as soon as is safe and reasonably practicable to do so following any cyclone, and appropriate weed management measures are implemented , as needed.	affecting the site.	cyclone or flood, undertake a monitoring event as per Table 11and implement management measures as needed.	condition and report on cyclone / flood impacts.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
					any potential damage. Increased soil moisture may assist weed growth. The subsequent monitoring event (as per Table 11) will include a groundcover survey, as soon after the end of a cyclone and any associated flooding as is safe and reasonably practicable to detect any areas of increased weed density. Flooding may also contribute to erosion (see below).							
Standard Risks												
Mining of the offset site	No current permits cover the proposed offsets site. Open cut mining may produce full clearing of the offset site. Underground	Rare	Critical	High	Limited mitigations measures can be implemented, as Queensland law does not prohibit development in Category A areas, though	Rare	Critical	High	No development or mining of the offset area.	Application for a Mining Lease. Any proposals or actions of developme	The land holder will provide any mining tenement holder or applicant the details of the Environmental Offset within	Annual review of mining tenements present within the offset area, and any notifications of applications

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
	mining may lead to subsidence, altering soil and hydrological structures, which can reduce habitat suitability.				such development would require extensive approvals and attract punitive additional offset obligations. No mining leases currently occur over the offset site, and it is considered unlikely that the offset area would be developed.					nt and/or mining.	two weeks of becoming aware of the application or proposal for development/ mining. The landholder will advise the Department within one week of becoming aware of the application or proposal for development/ mining.	for mining tenements.
Erosion	Raindrops impact bare soil with enough force to break the soil into smaller aggregates. These smaller aggregates wash into soil pores and prevent water from infiltrating the soil. Water then accumulates on the surface and increases runoff which takes soil with	Possible	Minor	Low	The expected severity of erosion at this site is limited, due to its flat nature. Erosion is primarily a risk on steeper sites. However, that risk can be further reduced. Stock will be removed from the offset site when the following minimum grass cover levels are reached or when the approved grazing period	Unlikely	Minor	Low	No deep gullying from erosion is observed. Groundcover is maintained at all times.	Deep gullying from erosion is observed. Groundcover is below minimum RE grass cover levels.	Within two weeks of detection of gullying or of grass cover falling below the minimum cover levels in any area of the offset site, stock are removed from the affected area until groundcover reaches at least 60%. Inspections to identify the cause of any point source	Monitoring as per Table 11 and the full biocondition assessments conducted every 5 years, will assess groundcover levels.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
	it. Due to the flat nature of the site, gully erosion is a low risk.				(November – December) ends: 10% in RE 11.3.1 (Brigalow) (slightly higher than the benchmark value of 8%); 50% in REs 11.3.3 and 11.3.4 (slightly higher than the benchmark values of 45% and 43%, respectively) 15% in RE 11.3.25 (slightly higher than the benchmark value of 12%) and 20% in RE 11.4.2 (slightly higher than the benchmark value of 16%). These minimum grass cover levels are also suitable for the Squatter Pigeon breeding and foraging habitat which typically contains less than 33% groundcover.						erosion (such as illegal vehicle access) will occur within 10 days of detection of gullying or reduced ground cover. Unauthorised access avenues will be rectified within 10 days of identification of the access avenue.	

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
Timber harvesting/ collection	Unauthorised access to the offset area may result in timber harvesting/collection. Such actions can remove important habitat features and harm the structure of the TEC and Squatter Pigeon habitat.	Unlikely	Moderate	Low	Complete the installation of signage at all vehicle accesses identifying the areas as an environmental offset, within six months of securing the offset property under a VDEC. Complete the installation of any new planned fences, within six months of securing the offset property under a VDEC. All field monitoring will report on any evidence of timber harvesting.	Rare	Moderate	Low	No unauthorised access. No evidence of clearing within the offset area. Offset Area mapped as Category A on PMAV.	Fences are damaged and associated with vehicle tracks. Timber cutting in observed in the offset area. Removal of trees in the offset area.	Investigation into the persons responsible for timber harvesting. Within two weeks of detection of timber harvesting, determine the access route onto and into the site. As soon as practicable, and in any case within one month of detection of timber harvesting ensure the site is secure (this includes repairing all damaged fences and erecting any new fences that may be needed. Within one month of detection of timber harvesting, determine if	The annual Offset Area Report will document any illegal/unauthorised timber harvesting. All field monitoring will report on the presence of any unauthorised access and clearing.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
											the offset completion criteria will be impacted. If completion criteria will be impacted or delayed, as soon as practicable, and in any case within eight months of detection of timber harvesting, undertake measures that enable further natural regeneration. Notify Queensland Department of Environment and Science (or relevant Queensland Department) and the relevant Commonwealth Department of the clearing within one month of detection of timber harvesting and	

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
											record in the Annual Report.	
Unplanned clearing	The offset site occurs within a beef production property. It is possible for unplanned / illegal clearing for agriculture activities, but considered improbable as the landholder has agreed to enter into an offset arrangement with the approval holder. Clearing can also occur by vehicles traversing the area off designated roads/tracks and/or illegal camping. This is also considered improbable, as access to the site will be restricted. The most plausible	Unlikely	Major	High	Complete the installation of signage at all vehicle accesses identifying the areas as an environmental offset, within six months of securing the offset property under a VDEC. Complete the installation of any new fences, within six months of the securing the property under a VDEC. Within 2 years of the commencement of the action, register a VDEC over the Offset Site, ensuring it is shown as Category A vegetation on PMAV. All monitoring will report on any evidence of clearing.	Rare	Major	Medium	No unauthorised access. No evidence of clearing within the offset area. Offset Area is mapped as Category A on PMAV.	Fences are damaged and associated with vehicle tracks. Clearing observed in the Offset Area. Removal of trees in the Offset Area.	Within one month of detection of clearing, determine if the offset completion criteria will be impacted. If completion criteria will be impacted or delayed, as soon as practicable, and in any case within eight months of detection of clearing, implement management measures that support natural regeneration of the tree species. Notify the Queensland Department of Environment and Science (or relevant Queensland Department), to the relevant Commonwealt	The annual Offset Area Report will document any illegal/unauthorised vegetation clearing/damage. All field monitoring will report on the presence of any unauthorised access and clearing.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
	(though still unlikely) cause of unplanned / illegal clearing would be if aerial application of chemicals on adjacent properties strayed across the offset boundary.										h Department, of the clearing within one month of detection of the clearing.	
New infestations of invasive weed species in the offset area.	Infestation of previously unidentified invasive weeds within the offset area. If a weed infestation is unchecked, it may cause a significant deterioration in the offset site.	Possible	Medium	Low	Access to the offset area are will be limited, to reduce/prevent weed seed spread. All non- property vehicles accessing the offset area are required to have undergone a weed inspection and vehicle hygiene check, confirming that they are weed free, before accessing the site. If a new weed infestation is identified, weed management measures will	Unlikely	Minor	Low	No infestations of new declared weed species in the offset area covering more than 100m2.	New invasive weed species are detected during monitoring as per Table 11. Establishment of new declared weeds. Failure of previous weed control attempts.	Implement control measures within one month of detection of new declared weed infestation. Treatment of a new infestation will be completed within two months of detection.	The annual Offset Area Report will document if any new invasive weed species are detected during annual monitoring, and the weed control measures to be implemented to control the new weed species.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
					occur as per Table 10.							
Inappropriate grazing regimes	Inappropriate grazing destroys shrubs and native grass cover, and slows or reverses the regeneration of threatened fauna habitat. Grazing can also lead to the trampling of Squatter Pigeon (southern) nests, impairing breeding.	Possible	High	Medium	Grazing will only be permitted during November and December to minimise any interruption to Squatter Pigeon breeding. Stock will only be permitted on the site in November and December if the groundcover exceeds 60%. Stock will be removed at the end of December, the beginning of the wet season or once the grass cover reaches the following minimum cover levels: 10% in RE 11.3.1 (Brigalow) (slightly higher than the benchmark value of 8%); 50% in REs 11.3.3 and 11.3.4 (slightly higher than the benchmark	Unlikely	Minor	Low	Stock are removed at the end of December or the start of the Wet Season and not returned until November each year. Groundcover remains above the minimum cover limits at all times.	Stock are observed on site in exclusion times. Groundcover falls below minimum cover requirements.	Stock are removed within one week.	Site inspections by the land manager during exclusion periods and weekly inspections when there is grazing in the offset area.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
					values of 45% and 43%, respectively) 15% in RE 11.3.25 (slightly higher than the benchmark value of 12%) and 20% in RE 11.4.2 (slightly higher than the benchmark value of 16%).							
Expansion of existing infestations of declared weed species and exotic pasture grass in the offset area	The extent of existing infestations of invasive weed species and exotic pasture grass expand or the weed/exotic pasture grass species become more abundant within the area.	Highly likely	High	High	Access to the offset area will be restricted. Chemical and/or mechanical control of all declared weeds in accordance with the control measures outlined in the Biosecurity Queensland Fact Sheets or other sources of information.	Unlikely	Minor	Low	Locations of class 1-3 declared weed populations known and being monitored / controlled. No increase in density of Weeds of National Significance. Decrease in exotic pasture cover. Control existing infestations of Prohibited or Restricted pest plants	Existing infestations or declared weeds or exotic pasture grass expand or become more abundant. Failure of previous weed/exotic pasture grass control attempts. Weed cover and exotic pasture grass cover >10% at	Implement control measures within one month of detection of expansion of existing weed/exotic pasture grass infestations. Treatment of any expansion of declared weeds or exotic pasture grass infestation will be completed within two months of detection.	The annual report will document the weed and exotic pasture grass presence, weed and exotic pasture grass control measures and extent of weed and exotic pasture grass cover during the reporting period and the relevant responsive actions.

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
									under the Biosecurity Act 2014 (Qld). Non-native weeds cover less than 10% at the end of the 20 year period.	the end of the 20 year period.		
Increased population of feral animals in the offset area.	Wild pig and dog populations are generally small and highly transient, and therefore the scale of impact is small. Major damage to the environment/habitat occurs when large numbers of animals congregate in the area.	Possible	Moderate	Medium	Current control of pigs and wild dogs is undertaken via a baiting program on the property. Additionally, the landholder, during quarterly inspections of the offset area may remove any wild pigs or wild dogs that are seen. If an increase in pig, deer, cat, fox, rabbit or dog activity is noted, an additional trapping, baiting and/or control program is to be instigated until the increased	Possible	Minor	Low	No increase in abundance or of feral animals. Maintain pest animal control program. No evidence of new pest species.	Detection of twelve or more wild pigs or dogs during a quarterly inspection. During ecological surveys, any substantial decline in Squatter Pigeon abundance over 3 consecutive monitoring periods or a reduction in Brigalow quality due to feral pigs.	Upon being notified or becoming aware of pest animal populations exceeding the threshold, the landholder is to implement pest control measures within one month. The Landholder may approach neighbouring landowners to discuss the increased pest animal presence and an integrated control program may be developed.	Monitoring as per Table 11 will be undertaken by the Landholder or suitable qualified person appointed by the Landholder. Quarterly inspections will involve traversing the offset area with streams, low lying areas and vehicle access tracks being noted for to record the presence of wallow holes, tracks

Risk Event	Risk Description	Initial Risk Ranking			Management Measures / Actions	Residual Risk Ranking			Perform-ance Criteria	Manage-ment Triggers	Corrective actions	Monitoring Mechanism
		Like-lihood	Conse-quence	Result		Like-lihood	Conse-quence	Result				
					activity has ceased.							and visual incidents in the offset area. If detected, these areas will be GPS-recorded and photographed and rechecked at the next quarterly inspection.
Failure to achieve offset completion criteria – owing to whatever cause.	If the offset site fails to achieve its completion criteria, that will indicate that the offset has not met the requirements of the offsets policy, nor achieved the outcomes that were key to the rationale for the approval decision.	Rare	Severe	High	The VDec under the VMA will ensure that the landholder remains obliged to undertake active management of the offset until all completion criteria are achieved. Therefore, the risk is that failure to achieve the criteria leads to further management.	Rare	Moderate	Low	Completion criteria are achieved, by the timeframes established.	Completio n criteria not met at year 20.	Active management continues until completion criteria are met.	Full biocondition assessments undertaken every 5 years.

9. Offset management measures

The offset area management measures have been prepared (*Table 10*) in accordance with the specific requirements for the OMP in the EPBC Act approval conditions.

The offset area management measures target, but are not limited to, the threats and the management measures specific to the Brigalow TEC and Squatter Pigeon. They include reporting and monitoring programs that will be undertaken until the offset completion criteria are attained. Protection of the offset area is maintained under the VM Act (through a change in vegetation class protection), *Nature Conservation Act 1992* (Qld) and EPBC Act.

Management measures include:

- Limiting vegetation clearing to only those areas required for maintaining fencing and firebreaks; and
- Prohibiting alternate land use and activities (e.g. timber harvesting, cropping); and
- Restricting unauthorised access; and
- Excluding domestic livestock from the offset area except for the infrequent grazing to help reduce fuel in dry periods; and
- Controlling feral animals; and
- Managing fire; and
- Managing weeds.

The management schedule describes the actions to be undertaken on the offset area (see *Table 10*).

Offset Area Reports will be prepared by suitably qualified person for the relevant task as shown in *Tables 11 and 12*. The reports will assess each of the management measures shown in *Table 10* and align them with risk mitigation and completion criteria. These management measures enable the offset area to improve the baseline ecological attributes, thus ultimately meeting the completion criteria required of the offset. The reports will provide transparency regarding how the site management measures are being implemented, and also identify any force majeure events impacting the offset area, and any non-compliance with the management plan.

Annual Compliance Reports will also be prepared by the proponent as shown in *Table 12* and *Section 10*. These reports will address compliance with each of the conditions of the Ironbark EPBC Act approval.

The management measures shown in this table are consistent with the risks identified in the listing advices, conservation advices, and threat abatement plans in Table 4.

Table 10: Management measures over the offset area

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
Degradation of habitat	Achieve the completion criteria.	Increase the habitat quality scores for each offset value at each habitat quality assessment site based on the results of baseline and subsequent monitoring events to achieve the scores in the completion criteria.	Implementation of the management actions and adaptive management framework as outlined in this OMP.	Monitoring of offset value habitat quality scores will be undertaken in accordance with Section 10. The results of monitoring events will be compared against the habitat quality scores from the baseline assessments, the interim performance targets and completion criteria to determine the progress of the offset area and recorded as part of reporting (see Section 6).	Habitat quality scores for interim performance targets are not achieved for one or more offset values by: • Year 5 • Year 10 • Year 15 • Year 20	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 OMP. The re-evaluation must identify appropriate corrective actions, where necessary. 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 eight months after detection of the trigger. They may include (though are not limited to): • Third party review of the OMP to provide input on the

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
						effectiveness of the management actions. • Increasing the frequency and intensity of pest animal and weed control measures or revising the type of measures to be implemented. • For offset values that have not achieved performance targets by year 20, for those offset values, the landholder will obtain advice from senior ecologists and land managers with the aim of identifying appropriate additional management interventions.
Habitat or vegetation loss through land clearing	Maintain the extent of habitat within the offset area.	No unapproved and/or intentional clearing of vegetation within the offset area, except for clearing that is required for fencing, access,	Protection of the offset area via a Voluntary Declaration under Section 19E and 19F of the VMA, as described in Section 7, to be registered within 2 years of the commencement of the project, in accordance with condition 7 of the project's EPBC Act approval.	Inspections as per *Table 11* will monitor and document if there is evidence of recent forestry or timber harvesting activities or illegal clearing. Inspections as per Table 11 will	Any activities in contravention of the Voluntary Declaration	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, where necessary. 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

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
		firebreaks and public safety. Ecological thinning may be carried out, but only in accordance with the advice of a suitably qualified expert.		monitor and document vegetation clearing that has occurred for fire break, access road or fence line maintenance.		and/or signage and security for the offset area.
			Comply with the restrictions on clearing established throughout this OMP. Construction and maintenance of access tracks, fencing and firebreaks will be undertaken in accordance with the requirements of *Table 9*. If vegetation clearing is required for fencing, access, firebreaks or public safety it must be undertaken in accordance with best practice		Detection of prohibited forestry operations, native timber harvesting or clearing outside of established access tracks, fire control lines and fence lines (existing infrastructure).	• Step 1: Upon being notified or becoming aware of prohibited forestry operations, native timber harvesting or clearing outside of existing infrastructure, the landholder is to assess how unauthorised persons[8] accessed the site, review existing access restrictions, and inspect signage and offset area fencing within one fortnight of detection of the clearing. • Step 2: All actions required to prevent recurrence of the prohibited clearing will be completed within one month of detection of the clearing.

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
			management methods and any applicable legislative requirements.			
Degradation of habitat by overgrazing	Ensure that any livestock grazing for fire management and weed control maintains and enhances the grass cover attributes for Brigalow and Squatter Pigeon and does not result in the degradation of habitat and vegetation.	Increase the richness of native grasses and ensure the % cover of grass cover aligns with minimum coverage levels at each habitat quality assessment site, based on the results of baseline and subsequent monitoring events.	Stock will be grazed only when required to reduce grass cover (i.e.: when grass cover exceeds 60%), and only during November and December. Stock are not to be grazed during Squatter Pigeon breeding season which is typically between January to October (inclusive).	Habitat quality assessments will be undertaken in accordance with Section 10. These will include assessment of percentage cover of native perennial grasses.	Detection of stock grazing during the exclusion period. Decrease in the richness and average ground layer cover to below the minimum % grass cover levels at one or more habitat quality assessment sites, based on the results of baseline and subsequent monitoring events.	Upon being notified or becoming aware of prohibited stock grazing in the offset area, the landholder is to remove the stock from the area (if present) and assess the adequacy of fencing within 10 days. Upon being notified or becoming aware of grass cover % falling below the minimum % grass cover levels, the landholder will remove cattle from the offset area within 10 days.
Degradation of Brigalow TEC habitat	Manage regrowth of Brigalow vegetation to achieve the completion	Maintenance of Brigalow regrowth in accordance with interim performance	Selective regrowth thinning of Brigalow maybe undertaken where regrowth	Habitat quality assessment in accordance with Section 10.	Brigalow regrowth exceeds 10,000 stems per hectare based on previous	Step 1: Within six months of detection of trigger, an assessment report will be completed by a senior ecologist with 15

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
	criteria (i.e. Brigalow TEC).	targets and completion criteria.	of Brigalow vegetation occurs at >10,000 stems per hectare, using mechanical methods. Thinning may only occur on, and in accordance with, the advice of a senior ecologist with at least 15 years' experience in Central Queensland.		monitoring events.	years' experience in Central Queensland. This report will: • Identify whether ecological thinning is appropriate • Identify a potentially appropriate thinning regime If thinning is proposed, the approval holder will within one month of receiving the report write to DoEE providing the full assessment report. Step 2: Implementation of corrective action(s) • As soon as practicable after receiving the assessment report required under Step 1, and in any case within eight months of detection of the trigger, complete implementation of all corrective actions identified in the assessment report.
Introduction, establishment and spread of non-native weeds including Restricted and Prohibited Plants listed under the *Biosecurity Act 2014* (Qld)	Manage invasive weed species to reduce degradation of Brigalow and Squatter Pigeon habitat.	Weed cover must not exceed 10% cover in the offset area at the end of 20 years. No new Restricted or Prohibited Plants listed under the	The primary weed control method will be grazing by cattle, which will be undertaken during the November and December. Where dense patches of	Monitoring of this management action will be undertaken by the Landholder or suitable qualified person appointed by the Landholder.	Pest plants occur in greater than 10% of the offset area. A new declared pest weed species is identified at one or more monitoring sites, or	Step 1: Investigate cause of trigger Step 2: Implementation of corrective action(s) Upon being notified or becoming aware of pest plants being present in greater than 10% of the offset area, the landholder is to implement pest control measures within one month. These measures may include, and are not limited to: • foliar spraying;

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
		Biosecurity Act 2014 (Qld) species are identified at any monitoring site (based on subsequent monitoring events).	parthenium are detected, spot spraying will be used. Weed control will be undertaken as early as practicable within the natural regeneration process throughout the offset areas and then periodically as required to treat the weeds at the optimum time in their life cycles to control and minimise the spread of the existing weed species.	Weed cover is to be monitored by the same methodology as the grass cover measurements. Quarterly inspections will observe and record the presence of weeds, type of weeds and success of previously applied weed control measures. The inspection will include before and after photos of the weed control area.	opportunistically during any site inspection or other monitoring. Failure of previous weed control attempts. Existing infestation expands or becomes more abundant.	• basal bark spraying; • stem injection; • cut stump; • cut and swab; • stem scraper; and • wick applicators.

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
Wild pig and dog populations are generally small and highly transient, and therefore the scale of impact is small. Major damage to the environment/habitat occurs when large numbers of animals congregate in the area.	Minimise the introduction of pest animals and control of existing populations of pest animals (wild dogs, pigs, feral cats and foxes) within the offset areas in accordance with the *Biosecurity Act 2014* (Qld).	Detection of twelve or more wild pigs or dogs during any inspection.	Implement control actions for pest animals in accordance with Section 8. Participate fully in, and cooperate with, any and all regional pest control programs, unless those would otherwise contravene a part of this OMP.	Undertake monitoring for pest animals in accordance with *Table 11*.	Any observed or suspected apparent substantial decline in Squatter Pigeon abundance or Brigalow quality detected during full biocondition assessments, over 3 consecutive monitoring events. Detection of 12 or more wild pigs or dogs during an inspection.	• Upon being notified or becoming aware of pest animal populations exceeding the threshold, the Landholder is to implement all necessary or appropriate control measures needed to reduce pest animal populations to below trigger thresholds. The landholder is to have completed implementation of all necessary or appropriate pest control measures within one month. • The Landholder may approach neighbouring landowners to discuss the increased pest animal presence and an integrated control program may be developed. If an integrated control program is considered appropriate, the land manager will make best endeavours to reach agreement with neighbouring landowners to implement such a program. • If impacts from the pest animal populations have not naturally remediated within 12 months of completion of implementation of the control measures, the land manager is to undertake and complete all works

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
						required to remediate those impacts.
Fire The impact from uncontrolled fire would be a reduction in groundcover, thinning of the canopy and slowing of the offset site achieving the completion criteria.	No evidence of fire in the offset area.	No evidence of fire in the offset area.	Implement fire management in accordance with all requirements in this OMP. If one or more bushfires are current in the region and considered potentially threatening to the site, 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 landholder may comply with that advice without needing approval or	Monitoring of this management action will be undertaken by the Landholder or suitable qualified person appointed by the Approval Holder as per *Table 11*. Quarterly inspections will monitor and document if there is evidence of wildfire, prohibited burning or *force majeure* events. Weed cover is to be	Destruction of, or significant damage to, vegetation or fallen timber. The occurrence of deliberately lit fires.	Step 1: Investigate cause of trigger • Within one month of the fire being extinguished, complete an investigation into the reasons why the fire management measures were not adequate. That investigation must review adherence to the fire management measures, and must identify appropriate corrective actions. The report will also provide an assessment of the damage caused by the fire. Step 2: Implementation of corrective action/s Corrective action: upon being notified or becoming aware of a prohibited fire in the offset area, the landholder is to reassess and implement new access protocols for any lessees etc., signage and general access within one fortnight. Corrective action: subsequent to any occurrence of fire in the offset area, the Landholder or suitable qualified person appointed by the Landholder will:

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
			agreement from DoEE). The landholder will maintain existing firebreaks along all boundaries of the offset property. Fire control lines must be inspected quarterly. Maintenance must be undertaken as required and at least once every two years.	monitored by the same methodology and at the same time as the groundcover cover. Weed control undertaken after a fire event will be undertaken to ensure weed cover is <10% at the end of the OMP. The land manager will keep themselves informed of any bushfires in the region.		1. inspect and repair, and widen if necessary, all firebreaks; and 2. reassess fuel load reduction practices; and • exclude grazing until the ground cover present at the end of October is at a minimum of 60%
Offset fails to achieve the interim performance targets and completion criteria within the anticipated 5, 10, 15 and/or 20 year	Achieve the interim performance targets and completion scores at years 5, 10, 15 and 20	The interim performance targets are achieved by year 5, 10 and 15.	All management actions outlined in in this OMP will be implemented to ensure that the interim performance	Monitoring of the offset area will be undertaken in accordance with Section 10.	Interim performance targets are not achieved by year 5, 10 or 15. Completion criteria are not	Step 1: Investigate cause of trigger • Within one month of detection of the trigger, complete an investigation into the reasons why the interim performance targets or the completion criteria were not achieved

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
timeframes, respectively	years, respectively.	The completion criteria are achieved by year 20.	targets and completion criteria are achieved.	The results of monitoring events will be compared against the interim performance targets and completion criteria to determine the progress of offset area and recorded as part of the annual Offset Area Report.	achieved by year 20.	within the specified timeframes. This investigation must re-evaluate the suitability of the relevant management measures in the OMP, and must identify appropriate corrective actions. Step 2: Implementation of Corrective Action/s As soon as practicable, and in any case within eight months of detection of the trigger, complete implementation of the corrective actions identified under Step 1. These may include (though are not limited to): • Increasing the frequency and intensity of pest animal and weed control measures or revising the type of measures to be implemented. • Modifying the fire management measures, to better support enhancement of offset values. If the investigation under Step 1 recommends changes to the management regime then: as soon as possible, and in any case within six months of detection of the trigger, implement a revised BOMP incorporating those recommended changes.

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
Site access	Unauthorised persons, vehicles, and/or stock are prevented from accessing the site, and authorised stock are prevented entry during exclusion times.	Public access to the offset area is prohibited. Access is restricted to those authorised persons required to undertake actions described in this management plan, including the landholder, and Approval Holder staff and their contractors and assigns. The offset area is not to be utilised for any purpose including recreational activities, or any other activities that	Fences will be maintained around the entirety of the offset site to prevent unauthorised access and to control stock presence. Signs will be erected at all entrances and potential access points to the site stating that access to the site is forbidden. All signs and fences will be erected within three months of the offset being legally secured.	Fence monitoring will be undertaken by the Landholder or suitable qualified person appointed by the approval holder within 3 months of the offset area being legally secured and during quarterly inspections. Inspections will monitor and document evidence of unauthorised access to the offset area. Inspections will monitor and document if	Evidence of unauthorised persons, vehicles, and/or stock is detected during exclusion periods. Evidence of stock is detected at any point during exclusion times. Damage is detected to any fence or sign.	For evidence of unauthorised persons, vehicles, and/or stock; or evidence of stock during an exclusion period: Step 1: determine access method Upon being notified or becoming aware of prohibited access to the offset area, the approval holder is to reassess access protocols for any lessees etc., signage and general access within one fortnight. Damage to signage will be repaired within one month of noting the damage. If there are areas that have been negatively impacted, the regeneration of those areas will be added to the monitoring sites at *Table 12* and monitored during the quarterly inspections. Signage will be repaired and maintained as required by the Landholder or suitable qualified person appointed by the approval holder.

Threat to offset values	Management objective	Performance criteria	Management action	Monitoring	Trigger for adaptive management and corrective action(s)	Corrective action
		deter from achieving the outcomes of this plan. No evidence is found 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.		signage is fit for purpose.		

10. Monitoring and reporting

The reporting shown in *Table 12* will enable comparison of changes in offset vegetation condition against baseline data, as well tracking progress towards the offset completion criteria (see *Section 6*). Furthermore, the reporting will measure the success of the management measures and note any variability due to climatic conditions. This will inform the nature and frequency of management measures required.

The proponent will prepare a compliance report on the offset area management, which will include any relevant Offset Area Reports, and submit it to the Commonwealth administering authorities every year for the duration of the EPBC Act approval, or until otherwise advised by the Minister, whichever comes first as per Condition 19 of the EPBC Act approval. The schedule of monitoring activities is shown at *Table 11*. The schedule of reporting is shown at *Table 12*.

Commonwealth threatened species survey guidelines used to inform the requirements of the terrestrial flora and fauna surveys included:

- Survey guidelines for Australia's threatened birds (DEWHA 2010a); and
- Brigalow TEC Approved Conservation Advice.

Table 11: Monitoring schedule

Monitoring	Attributes monitored	Frequency	Method	Responsibility	Location/s
Monitoring undertaken by ecologists					
Baseline assessment	Refer 'ecological condition' below	Completed in 2018 and is an input into this OMP	Field observations, vegetation and habitat assessment was conducted as per the *Guide to determining terrestrial habitat quality – a toolkit for assessing land-based offsets under the Queensland Environmental Offsets Policy (version 1.4 July 2017)* (DEHP, 2017).	Suitably qualified person[9]	Sites listed at *Table 13* and shown on *Figure 7*
Targeted surveys for Squatter Pigeon	Records of Squatter Pigeon	Every five years until the completion criteria have been achieved. This survey frequency is justified given that the improvements to vegetation, and subsequently the Squatter Pigeon, will be a slow process.	Squatter Pigeons will be surveyed in accordance with the *Survey Guidelines for Australia's Threatened Birds*	Suitably qualified person	Sites listed at *Table 13* and shown on *Figure 7*

[9] Ironbark No. 1 EPBC Act approval 2007/3643 Suitably qualified person means a person who has professional qualifications and at least 3 years of relevant work experience related to the nominated subject matters and can give an authoritative assessment, advice and analysis on performance relative to the subject matter using relevant protocols, standards, methods or literature. If the person does not have appropriate professional qualifications, the person must have at least 5 years of work experience related to the subject matters and can give an authoritative assessment, advice and analysis on the performance relative to the subject matter using relevant protocols, standards, methods or literature.

Monitoring	Attributes monitored	Frequency	Method	Responsibility	Location/s
Ecological condition	Recruitment of woody perennial species in EDL Native plant species richness – trees Native plant species richness – shrubs Native plant species richness - grasses Native plant species richness – forbs Tree canopy height Tree canopy cover Shrub canopy cover Native perennial grass cover Organic litter Large trees Coarse woody debris Non-native plant cover Threats to species/TEC	Every five years until the completion criteria have been achieved. This survey frequency is justified given that the improvements to vegetation will be a slow process.	Vegetation and habitat quality assessment will be assessed as per the *Guide to determining terrestrial habitat quality – a toolkit for assessing land-based offsets under the Queensland Environmental Offsets Policy (version 1.1 December 2014)* (DEHP, 2014). Data for each of the ecological condition attributes monitored will be collected at each site listed in *Table 13* and reported on and presented in a sequential manner (including previous data collected) to quantify change from the benchmark collected in 2018 towards the values of the completion criteria. This will record the change in each attribute measured and hence the condition of the ecological community and	Suitably qualified person	Sites listed at *Table 13* and shown on *Figure 7*

Monitoring	Attributes monitored	Frequency	Method	Responsibility	Location/s
	Quality and availability of food and foraging habitat (Squatter Pigeon only)		habitat, thus enabling a statistical comparison to previous years' data and the progression of the offset area condition towards the completion.		
	Quality and availability of shelter (Squatter Pigeon only)				
	Species mobility (Squatter Pigeon only)				
	Role of the site location to species overall population in the state				
	Size of patch				
	Connectedness				
	Context				
	Ecological corridors				
	Presence detected on or adjacent to site (Squatter Pigeon only)				
	Species usage of the site (Squatter Pigeon) only)				
	Role/ importance of species population on site (Squatter Pigeon only)				

Monitoring	Attributes monitored	Frequency	Method	Responsibility	Location/s
Monitoring undertaken by the landholder or suitable qualified person appointed by the Landholder.					
Any unauthorised impacts to vegetation from activities such as illegal harvesting, illegal access/ camping	Unauthorised clearing or disturbances	Quarterly inspections.	Observe and record accessibility to the offset site (i.e. condition of fencing), evidence and location of illegal clearing, fire and/or pest animal incursion.	Landholder or suitable qualified person appointed by the Landholder.	Sites listed at *Table 13* and shown on *Figure 7* and the boundary of the offset area
Grazing	Fencing	If during exclusion periods cattle are grazing paddocks adjacent to the offset area, fencing must be inspected weekly to ensure stock exclusion. During stock grazing periods, fencing must be inspected weekly. Fencing will be inspected monthly if there are no stock adjacent to or within the offset area.	Observe and record the quality and security of the fencing.	Landholder or suitable qualified person appointed by the Landholder.	All fences within offset area.

Monitoring	Attributes monitored	Frequency	Method	Responsibility	Location/s
	Grass cover	During stock exclusion periods, inspections will be conducted monthly. When the grass cover exceeds 60% in November and/or December then grazing is permitted. During grazing periods, weekly inspections will be conducted. Grazing will cease when the minimum grass cover levels in *Table 10* are reached or January commences. Note: Grass cover will also be assessed during the ecological condition surveys.	Record the minimum grass cover as per the Level 2B methodology described in the *Land Manager's Monitoring Guide* (DERM, 2010) (or any subsequent published version of this document). This methodology is suitable for the landholder to determine whether grazing can be conducted within the offset area. Note: Grass cover will also be assessed in accordance with the *Guide to determining terrestrial habitat quality – a toolkit for assessing land-based offsets under the Queensland Environmental Offsets Policy (version 1.1 December 2014)* (DEHP, 2014) as part of the ecological condition surveys.	Landholder or suitable qualified person appointed by the Landholder. Note: Grass cover will also be assessed by a suitably qualified person as part of the ecological condition surveys.	Sites listed at *Table 13* and shown on *Figure 7*
Fire	Evidence/location of fire, timing/duration of fire, effectiveness of the management measures	Quarterly inspections	Record firebreak maintenance activities and date activities are undertaken. During quarterly inspections, inspect the site	Landholder or suitable qualified person appointed by the Landholder.	Sites listed at *Table 13* and shown on *Figure 7* and the boundary of the offset area

Monitoring	Attributes monitored	Frequency	Method	Responsibility	Location/s
			for evidence of fire. If fire has occurred, record location, extent, and date.		
Pest plants	Location, extent and percentage of weed cover. The type and location of weed management and the success of weed management measures. Before and after photos will be taken in weed control areas.	Monitored monthly during the wet season (December – March) and fortnightly inspections during the dry season (typically April to November) and times of drought. Note: Weed cover will also be assessed during the ecological condition surveys.	Record weed cover as per the Level 2B methodology described in the *Land Manager's Monitoring Guide* (DERM, 2010) (or any subsequent published version of this document). This methodology is suitable for the landholder to determine whether weed management measures need to be conducted within the offset area. Note: Weed cover will also be assessed in accordance with the *Guide to determining terrestrial habitat quality – a toolkit for assessing land-based offsets under the Queensland Environmental Offsets Policy (version 1.1 December 2014)* (DEHP, 2014) as part of the ecological condition surveys.	Landholder or suitable qualified person appointed by the Landholder. Note: Weed cover will also be assessed by a suitably qualified person as part of the ecological condition surveys.	Sites listed at *Table 13* and shown on *Figure 7* and anywhere else recorded within the offset area
Pest animals	Location and numbers of pest animals. The type and location of pest	Monitored monthly.	Inspections will involve traversing the offset area with streams, low lying areas	Landholder or suitable qualified person appointed by the Landholder.	Sites listed at *Table 13* and shown on *Figure 7* and

Monitoring	Attributes monitored	Frequency	Method	Responsibility	Location/s
	management and the success of pest management measures.		and vehicle access tracks being noted for, to record the presence of wallow holes/warrens, tracks and visual incidents in the offset area. If detected, these locations will be GPS recorded and photographed and rechecked at the next monthly inspection.		anywhere else recorded within the offset area
Erosion	Gully erosion and grass cover.	Monitored monthly.	Observation of deep gullying from erosion.	Landholder or suitable qualified person appointed by the Landholder.	Sites listed at *Table 13* and shown on *Figure 7* and anywhere else recorded within the offset area
Cyclone/Flood event	Full site meander survey to determine extent and location of impacts.	As soon as reasonably practicable and safe following a cyclone and/or flood.	Full site meander survey.	Landholder or suitable qualified person appointed by the Landholder.	Entire offset area
Mining tenements	New mining tenements within the offset area.	Annually	Review of mining tenements.	Landholder or suitable qualified person appointed by the Landholder.	Entire offset area

Table 12: Reporting schedule

Report Details	Reporting Period	Responsibility for Preparing	Deadline
EPBC Act Annual Compliance Report – reporting on compliance with the EPBC Act approval (EPBC Act approval Condition 19).	Every 12 months for the duration of the EPBC Act approval or until otherwise advised by the Minister	The proponent	Within 3 months of every 12 month anniversary of the commencement of the action the report will be published on Fitzroy's website and submitted to DoEE
Offset Area Report - providing annual results and the effectiveness of the management measures as described in this OMP. This report will also include the detail of monitoring results, management measures, investigations and any corrective actions taken.	Every 12 months from the grant of the VDec for the term of the OMP	The responsibility of this report is the proponents but parts of the report will be prepared by suitably qualified person and/or the Landholder	The report will be an appendix to the EPBC Act Compliance Report
Ecological Condition Assessment Report – providing results of the BioCondition surveys.	Every 5 years from the grant of the VDec for the term of the OMP	Suitably qualified person	The report will be an appendix to the EPBC Act Compliance Report
Internal Audit Report – confirming compliance and effectiveness of the OMP. This report will also provide any necessary suggestions to improve the mitigation measures to enhance the environmental outcomes.	Every 5 years from the grant of the VDec for the term of the OMP	The proponent	Within 3 months of the submission of the Ecological Condition Assessment Report
External Audit Report – confirming compliance with the conditions of the EPBC Act approval conducted by an independent auditor (EPBC Act Condition 21).	As required by DoEE	The proponent	As required by DoEE
Revised OMP – required changes to the	Only required if the management	The proponent	Within 6 months of failing to meet the interim habitat

Report Details	Reporting Period	Responsibility for Preparing	Deadline
management regime of the offset area due to the interim habitat quality values or completion criteria not being met.	regime in the OMP needs to be amended to ensure the interim and/or completion criteria are met		quality values or completion criteria, but only if it is deemed necessary to change the management measures. For clarity – this is not required if the delay in the interim or completion criteria are as a result of a Force Majeure Event (other than catastrophic fire)
New Mining Tenement Notification – provide holder of mining tenement over the offset area with the OMP and advise the Department of the mining tenement.	Only required if a mining tenement is placed over the offset area	The proponent	Provide the OMP to the tenement holder within 2 weeks of becoming aware of the mining tenement. Advise the Department of the mining tenement within one week of becoming aware of the mining tenement.
Notification of Illegal Timber Harvesting or Clearing – notify the Queensland Government, Department and Queensland Police (where relevant) that illegal timber harvesting and/or clearing has occurred within the offset area.	Only required if illegal clearing or timber harvesting occurs within the offset area	The proponent	Within one month of detection of illegal timber harvesting or clearing.

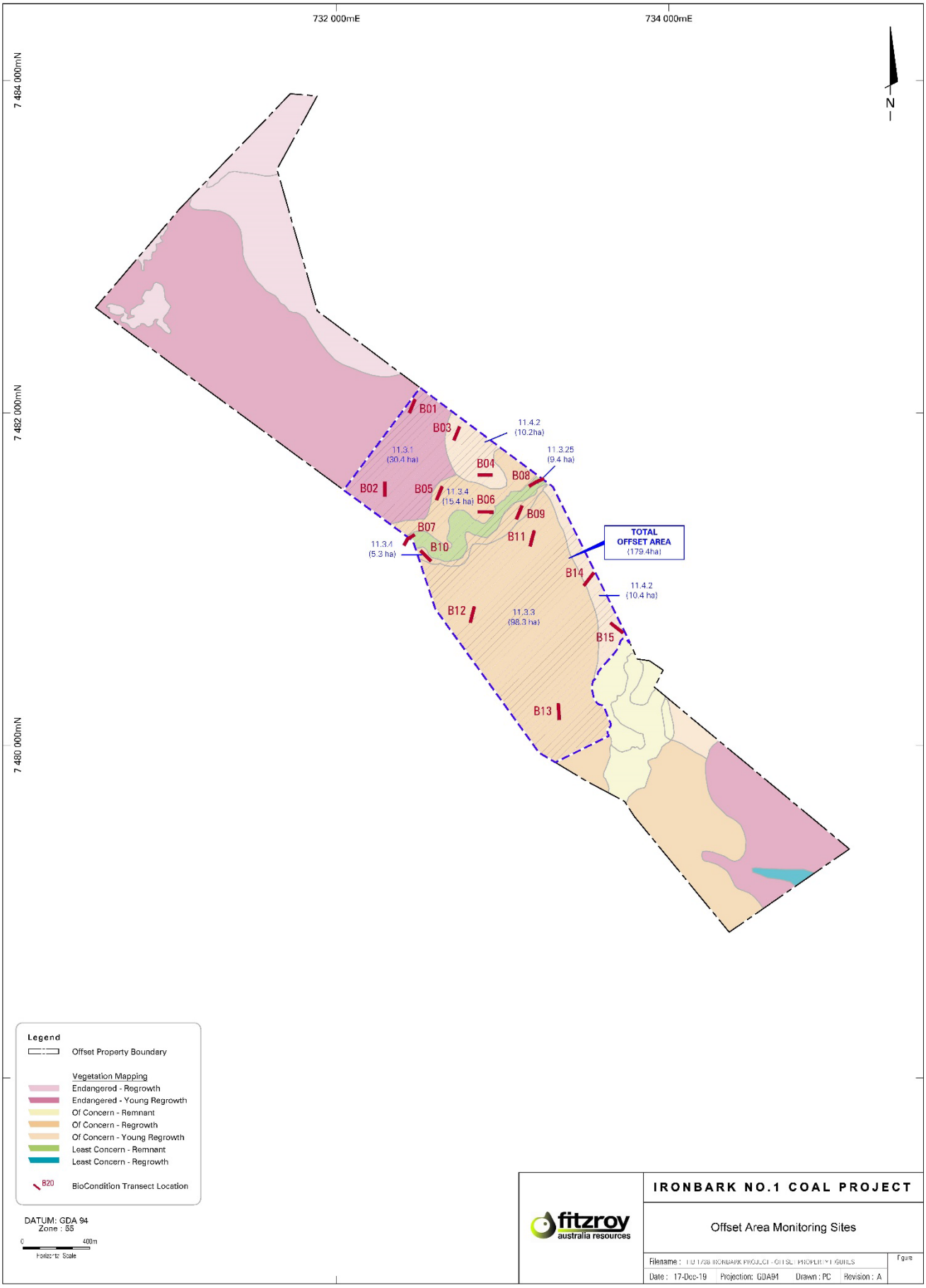
Table 13: Monitoring Sites

Site No.	Regional Ecosystem	Condition	Start Location - easting	Start Location - northing	End Location – easting	End Location - northing
B01[1]	11.3.1	Regrowth	732438	7481998	732473	7482081
B02[1]	11.3.1	Regrowth	732291	7481496	732291	7481586
B03[1]	11.4.2	Regrowth	732706	7481834	732741	7481917
B04[1]	11.4.2	Regrowth	732850	7481626	732940	7481626
B05[1]	11.3.4	Regrowth	732602	7481475	732636	7481558
B06	11.3.4	Regrowth	732850	7481404	732944	7481402
B07	11.3.25	Remnant	732406	7481201	732471	7481267
B08	11.3.25	Remnant	733249	7481604	733158	7481557
B09[1]	11.3.4	Regrowth	733083	7481359	733117	7481442
B10[1]	11.3.4	Regrowth	732505	7481171	732569	7481107
B11	11.3.3	Regrowth	733165	7481196	733190	7481292
B12	11.3.3	Regrowth	732805	7480737	732830	7480835
B13	11.3.3	Regrowth	733340	7480151	733334	7480252
B14	11.4.2	Regrowth	733549	7481039	733488	7480959
B15	11.4.2	Regrowth	733648	7480736	733725	7480675

[1]Exact locations of sites to be confirmed in first survey.

Coordinates system: GDA_1994_MGA_Zone_55

Figure 7: Offset area monitoring sites



11. Data handling, storage and adaptive management

The key risks of the offset area achieving the required outcomes are shown in *Table 9*. The site will be managed as per the management activities and corresponding monitoring and corrective actions shown in *Table 10*.

Monitoring will be undertaken as shown in *Table 11*, and locations proved in *Table 13* and shown on *Figure 7*, and reported as per *Table 12*. This will verify that the management activities have been undertaken and that the offset area is likely to attain, has attained, or is maintaining attainment of the offset completion criteria.

The OMP will be attached to the title of the property via a VDec under the VMA, providing the State with legislative powers to oversee the offset's implementation.

The proponent will review the effectiveness of management activities within *Table 10* as part of the annual Offset Area Report. Internal audits of the OMP's effectiveness at meeting interim performance targets will be conducted every 5 years after the BioCondition Report has been issued.

12. Declaration

I declare that to the best of my knowledge, all the information contained in, or accompanying this document is complete, current and correct. I am duly authorised to sign this declaration on behalf of the proponent/approval holder. I am aware that:

a. *section 490 of the Environment Protection and Biodiversity Conservation Act 1999 {Cwth) {EPBC Act) makes it an offence for an approval holder to provide information in response to an approval condition where the person is reckless as to whether the information is false or misleading.*
b. *section 491 of the EPBC Act makes it an offence for a person to provide information or documents to specified persons who are known by the person to be performing a duty or carrying out a function under the EPBC Act or the Environment Protection and Biodiversity Conservation Regulations 2000 {Cwth) where the person knows the information or document is false or misleading.*
c. *the above offences are punishable on conviction by imprisonment, a fine or both.*

Signed

Full name (please print):
Organisation: Fitzroy Australia Resources
EPBC Act Referral Number: EPBC 2007/3643
Date:

List of abbreviations

Abbreviations	Description
DoEE	Department of the Environment and Energy (Commonwealth)
EOP	*Environmental Offsets Policy* (October 2012) (EPBC Act)
EPBC Act	*Environment Protection & Biodiversity Conservation Act 1999* (Cth)
the proponent	Fitzroy Australia Resources
ha	hectares
ML	Mining lease
MNES	Matters of national environmental significance
OAMP	Offset area management plan
OMP	Offset Management Plan
PMAV	Property map of assessable vegetation
RE	Regional ecosystem
TEC	Threatened ecological community
VMA	*Vegetation Management Act 1999* (Qld)

Glossary

Term	Definition
BioCondition Assessment Report	*BioCondition Assessment Report* (December 2018; Cumberland Ecology. Report No. Q18009RP1)
Bord and pillar	An underground mining method whereby coal is first extracted along roadways or bords, while the coal in between the bords acts as pillars holding up the roof. Then the outer pillars are mined, leaving the roof to collapse in a controlled way as mining of the bord is finalised for that section.
Brigalow Development Scheme	In 1962 The *Brigalow and Other Lands Development Act* (Qld) was passed. Under the Brigalow Development Scheme, approximately 2 million ha was allocated in Areas I, IA and II in the Bauhinia, Taroom and Duaringa districts, with a further 2.4 million ha in the Brigalow Belt North. Properties were to be large enough to stock 1,000 cattle. State and Commonwealth governments provided loans of up to $60,000 for settlers to cover development costs, plus paying for the construction of 1,200 km of development roads. The Scheme was the first closer settlement policy that provided a combination of infrastructure, adequate financial assistance, and large enough blocks to provide a decent living. By the 1970s, most of the Brigalow scrub had disappeared. Vast areas of sucker regrowth were controlled by aerial spraying with 245T and 24D, burning and mechanical means, in preparation for improved pastures and cropping. Sheep numbers declined markedly matched by a rise in cattle numbers and the area under crops. The rise in cropping was linked to a severe decline in cattle prices in the 1970s and to the more effective control of Brigalow regrowth using blade ploughing, whereby the roots were cut off under the soil.
Category A vegetation	Under Queensland vegetation management legislation, Category A vegetation is an area which is: · a declared area · an offset area, an exchange area, an area that has been subject to unlawful clearing or an enforcement notice, an area subject to clearing as a result of a clearing offence OR · an area that the chief executive determines to be Category A

Term	Definition
	Category A areas are colour-coded red on the regulated vegetation management map. See VMA, s20AL.
Category X vegetation	Under Queensland vegetation management legislation, all areas other than Category A, B, C and R areas are Category X areas. Some Category X areas are also identified on a property map of assessable vegetation (PMAV) as 'locked in'. Category X areas are also known as 'exempt areas' because activity in Category X areas is not regulated by the VMA. Category X areas are colour-coded white on the regulated vegetation management map. See VMA, s 20A.
Graslan	Graslan is the registered brand of Dow AgroSciences whose active ingredient is Tebuthiuron. Tebuthiuron is a non-selective broad-spectrum herbicide of the urea class It is used in a number of herbicides manufactured by Dow AgroSciences, and is sold under several trade names, depending on the formulation. It is used to control weeds, woody and herbaceous plants, and sugar cane. It is absorbed by the roots and transported to the leaves, where it inhibits photosynthesis.
Habitat quality scores	A score out of ten, based on BioCondition assessment plus an assessment of habitat quality.
Property Map of Assessable Vegetation	A map certified by the chief-executive as a PMAV for an area and showing the vegetation category areas for the area (e.g. Category C area, Category X area) See VMA, section 20AK.
Regrowth vegetation	Vegetation that is not remnant vegetation.
Regulated vegetation	Vegetation that: · is an endangered RE, an of concern RE, or a least concern RE, and · forms the predominant canopy of the vegetation covering more than 50% of the undisturbed predominant capacity; averaging more than 70% of the vegetation's undisturbed height; and composed of species characteristic of the vegetation's undisturbed predominant canopy.
The Project	The Ironbark No 1 Coal Mine Project
Yakka Skink Survey Report	*Yakka Skink Preclearance Survey Report* (December 2018; Cumberland Ecology. Report No. Q18009RP2

Schedule 1: Title search – 'Brigalow'

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

Request No: 30235155
Search Date: 14/12/2018 12:10 **Title Reference: 50040349**
Date Created: 20/12/1994

Previous Title: 18783007

REGISTERED OWNER

Dealing No: 707100172 20/10/2003

STEWART GEOFFREY WALLACE
KERRY ANNE WALLACE JOINT TENANTS

ESTATE AND LAND

Estate in Fee Simple

LOT 6 REGISTERED PLAN 860051
Local Government: ISAAC

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 18783007 (Lot 5 on CP ROP155)

2. MORTGAGE No 707100184 20/10/2003 at 11:19
   NATIONAL AUSTRALIA BANK LIMITED A.B.N. 12 004 044 937

ADMINISTRATIVE ADVICES

Dealing	Type	Lodgement Date	Status
710275838	VEG NOTICE VEGETATION MANAGEMENT ACT 1999	22/01/2007 15:31	CURRENT

UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

Requested By: D-ENQ PROPERTY & TITLE SEARCH

Page 1/1

Schedule 2: Offset Assessment Guides

Schedule 2A: Impact – Brigalow regrowth

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Brigalow
EPBC Act status	Endangered
Annual probability of extinction Based on IUCN category definitions	1.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator

Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Ecological communities						
Area of community	Yes	Impacts to regrowth	Area	1.3	Hectares	
			Quality	5	Scale 0-10	
			Total quantum of impact	0.65	Adjusted hectares	
Threatened species habitat						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Threatened species						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator

Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost ($ total)	Information source
Ecological Communities																				
Area of community	Yes	0.65	Adjusted hectares		Risk related time horizon (max. 20 years)	20	Start area (hectares)	3	Risk of loss (%) without offset	0%	Risk of loss (%) with offset	0%	0.00	100%	0.00	0.00	0.80	123.62%	Yes	
									Future area without offset (adjusted hectares)	3.0	Future area with offset (adjusted hectares)	3.0								
					Time until ecological benefit	20	Start quality (scale of 0-10)	4	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	7	4.00	85%	3.40	2.68				
Threatened species habitat																				
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset									
									Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0								
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)									
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start value		Future value without offset		Future value with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost ($ total)	Information source
Number of features e.g. Nest hollows, habitat trees	No																			
Condition of habitat Change in habitat condition, but no change in extent	No																			
Threatened species																				
Birth rate e.g. Change in nest success	No																			
Mortality rate e.g Change in number of road kills per year	No																			
Number of individuals e.g. Individual plants/animals	No																			

Summary

Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost ($)		
					Direct offset ($)	Other compensatory measures ($)	Total ($)
Birth rate	0				$0.00		$0.00
Mortality rate	0				$0.00		$0.00
Number of individuals	0				$0.00		$0.00
Number of features	0				$0.00		$0.00
Condition of habitat	0				$0.00		$0.00
Area of habitat	0				$0.00		$0.00
Area of community	0.65	0.80	123.62%	Yes	$0.00	N/A	$0.00
					$0.00	**$0.00**	**$0.00**

Schedule 2B: Impact – Brigalow remnant

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Brigalow
EPBC Act status	Endangered
Annual probability of extinction Based on IUCN category definitions	1.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator

Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Ecological communities						
Area of community	Yes	Remant Brigalow	Area	7.9	Hectares	
			Quality	7	Scale 0-10	
			Total quantum of impact	5.53	Adjusted hectares	
Threatened species habitat						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
Protected matter attributes	**Attribute relevant to case?**	**Description**	**Quantum of impact**		**Units**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Threatened species						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator

Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)		% of impact offset	Minimum (90%) direct offset requirement met?	Cost ($ total)	Information source
Ecological Communities																					
Area of community	Yes	5.53	Adjusted hectares	Regrowth Brigalow	Risk related time horizon (max. 20 years)	20	Start area (hectares)	22	Risk of loss (%) without offset	0%	Risk of loss (%) with offset	0%	0.00	100%	0.00	0.00	5.89	106.55%	Yes		
									Future area without offset (adjusted hectares)	22.0	Future area with offset (adjusted hectares)	22.0									
					Time until ecological benefit	20	Start quality (scale of 0-10)	4	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	7	4.00	85%	3.40	2.68					
Threatened species habitat																					
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset										
									Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
Protected matter attributes	**Attribute relevant to case?**	**Total quantum of impact**	**Units**	**Proposed offset**	**Time horizon (years)**		**Start value**		**Future value without offset**		**Future value with offset**		**Raw gain**	**Confidence in result (%)**	**Adjusted gain**	**Net present value**		**% of impact offset**	**Minimum (90%) direct offset requirement met?**	**Cost ($ total)**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No																				
Condition of habitat Change in habitat condition, but no change in extent	No																				
Threatened species																					
Birth rate e.g. Change in nest success	No																				
Mortality rate e.g Change in number of road kills per year	No																				
Number of individuals e.g. Individual plants/animals	No																				

Summary

Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost ($)		
					Direct offset ($)	Other compensatory measures ($)	Total ($)
Birth rate	0				$0.00		$0.00
Mortality rate	0				$0.00		$0.00
Number of individuals	0				$0.00		$0.00
Number of features	0				$0.00		$0.00
Condition of habitat	0				$0.00		$0.00
Area of habitat	0				$0.00		$0.00
Area of community	5.53	5.89	106.55%	Yes	$0.00	N/A	$0.00
					$0.00	**$0.00**	**$0.00**

Schedule 2C: Squatter pigeon – breeding – remnant impact, remnant offset

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Squatter Pigeon
EPBC Act status	Vulnerable
Annual probability of extinction. Based on IUCN category definitions	0.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator

Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Ecological communities						
Area of community	No		Area			
			Quality			
			Total quantum of impact	0.00		
Threatened species habitat						
Area of habitat	Yes		Area	57	Hectares	
			Quality	7	Scale 0-10	
			Total quantum of impact	39.90	Adjusted hectares	
Protected matter attributes	**Attribute relevant to case?**	**Description**	**Quantum of impact**		**Units**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Threatened species						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator

Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost ($ total)	Information source
Ecological Communities																				
Area of community	No				Risk related time horizon (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset									
									Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0								
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)									
Threatened species habitat																				
Area of habitat	Yes	39.90	Adjusted hectares	Offset with remnant breeding habitat - RE 11.3.25	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	9.4	Risk of loss (%) without offset	0%	Risk of loss (%) with offset	0%	0.00	100%	0.00	0.00	0.77	1.92%	No	
									Future area without offset (adjusted hectares)	9.4	Future area with offset (adjusted hectares)	9.4								
					Time until ecological benefit	20	Start quality (scale of 0-10)	6	Future quality without offset (scale of 0-10)	6	Future quality with offset (scale of 0-10)	7	1.00	85%	0.85	0.82				
Protected matter attributes	**Attribute relevant to case?**	**Total quantum of impact**	**Units**	**Proposed offset**	**Time horizon (years)**		**Start value**		**Future value without offset**		**Future value with offset**		**Raw gain**	**Confidence in result (%)**	**Adjusted gain**	**Net present value**	**% of impact offset**	**Minimum (90%) direct offset requirement met?**	**Cost ($ total)**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No																			
Condition of habitat Change in habitat condition, but no change in extent	No																			
Threatened species																				
Birth rate e.g. Change in nest success	No																			
Mortality rate e.g. Change in number of road kills per year	No																			
Number of individuals e.g. Individual plants/animals	No																			

Summary

Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost ($)		
					Direct offset ($)	Other compensatory measures ($)	Total ($)
Birth rate	0				$0.00		$0.00
Mortality rate	0				$0.00		$0.00
Number of individuals	0				$0.00		$0.00
Number of features	0				$0.00		$0.00
Condition of habitat	0				$0.00		$0.00
Area of habitat	39.9	0.77	1.92%	No	$0.00	#DIV/0!	#DIV/0!
Area of community	0				$0.00		$0.00
					$0.00	#DIV/0!	#DIV/0!

Schedule 2D: Squatter pigeon – breeding – remnant impact, regrowth offset

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Squatter Pigeon
EPBC Act status	Vulnerable
Annual probability of extinction Based on IUCN category definitions	0.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator

Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Ecological communities						
Area of community	No		**Area**			
			Quality			
			Total quantum of impact	0.00		
Threatened species habitat						
Area of habitat	Yes	Impacts to remant breeding habitat	**Area**	57	Hectres	
			Quality	7	Scale 0-10	
			Total quantum of impact	39.90	Adjusted hectares	
Protected matter attributes	**Attribute relevant to case?**	**Description**	**Quantum of impact**		**Units**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Threatened species						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator

Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost ($ total)	Information source
Ecological Communities																				
Area of community	No				**Risk related time horizon (max. 20 years)**		**Start area (hectares)**		**Risk of loss (%) without offset**		**Risk of loss (%) with offset**									
									Future area without offset (adjusted hectares)	0.0	**Future area with offset (adjusted hectares)**	0.0								
					Time until ecological benefit		**Start quality (scale of 0-10)**		**Future quality without offset (scale of 0-10)**		**Future quality with offset (scale of 0-10)**									
Threatened species habitat																				
Area of habitat	Yes	39.90	Adjusted hectares	Offset with inprovement to regrowth breeding habitat. 15.4ha BO6 - RE 11.3.4 and	**Time over which loss is averted (max. 20 years)**	20	**Start area (hectares)**	119	**Risk of loss (%) without offset**	20%	**Risk of loss (%) with offset**	0%	23.80	100%	23.80	22.87	39.33	98.58%	Yes	
									Future area without offset (adjusted hectares)	95.2	**Future area with offset (adjusted hectares)**	119.0								
					Time until ecological benefit	20	**Start quality (scale of 0-10)**	5	**Future quality without offset (scale of 0-10)**	4	**Future quality with offset (scale of 0-10)**	7	3.00	85%	2.55	2.45				
Protected matter attributes	**Attribute relevant to case?**	**Total quantum of impact**	**Units**	**Proposed offset**	**Time horizon (years)**		**Start value**		**Future value without offset**		**Future value with offset**		**Raw gain**	**Confidence in result (%)**	**Adjusted gain**	**Net present value**	**% of impact offset**	**Minimum (90%) direct offset requirement met?**	**Cost ($ total)**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No																			
Condition of habitat Change in habitat condition, but no change in extent	No																			
Threatened species																				
Birth rate e.g. Change in nest success	No																			
Mortality rate e.g Change in number of road kills per year	No																			
Number of individuals e.g. Individual plants/animals	No																			

Summary

Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost ($)		
					Direct offset ($)	Other compensatory measures ($)	Total ($)
Birth rate	0				$0.00		$0.00
Mortality rate	0				$0.00		$0.00
Number of individuals	0				$0.00		$0.00
Number of features	0				$0.00		$0.00
Condition of habitat	0				$0.00		$0.00
Area of habitat	39.9	39.33	98.58%	Yes	$0.00	#DIV/0!	#DIV/0!
Area of community	0				$0.00		$0.00
					$0.00	**#DIV/0!**	**#DIV/0!**

Schedule 2E: Squatter pigeon – foraging – remnant impact, regrowth offset

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Squatter Pigeon
EPBC Act status	Vulnerable
Annual probability of extinction. Based on IUCN category definitions	0.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator

Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Ecological communities						
Area of community	No		Area			
			Quality			
			Total quantum of impact	0.00		
Threatened species habitat						
Area of habitat	Yes		Area	24.7	Hectares	
			Quality	6	Scale 0-10	
			Total quantum of impact	14.82	Adjusted hectares	
Protected matter attributes	**Attribute relevant to case?**	**Description**	**Quantum of impact**		**Units**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Threatened species						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator

Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost ($ total)	Information source
Ecological Communities																				
Area of community	No				Risk related time horizon (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset									
									Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0								
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)									
Threatened species habitat																				
Area of habitat	Yes	14.82	Adjusted hectares	Offset with regrowth foraging habitat - RE 11.4.2 and RE 11.3.1	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	48.1	Risk of loss (%) without offset	20%	Risk of loss (%) with offset	0%	9.62	100%	9.62	9.24	14.97	101.04%	Yes	
									Future area without offset (adjusted hectares)	38.5	Future area with offset (adjusted hectares)	48.1								
					Time until ecological benefit	20	Start quality (scale of 0-10)	4	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6	3.00	85%	2.55	2.45				
Protected matter attributes	**Attribute relevant to case?**	**Total quantum of impact**	**Units**	**Proposed offset**	**Time horizon (years)**		**Start value**		**Future value without offset**		**Future value with offset**		**Raw gain**	**Confidence in result (%)**	**Adjusted gain**	**Net present value**	**% of impact offset**	**Minimum (90%) direct offset requirement met?**	**Cost ($ total)**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No																			
Condition of habitat Change in habitat condition, but no change in extent	No																			
Threatened species																				
Birth rate e.g. Change in nest success	No																			
Mortality rate e.g. Change in number of road kills per year	No																			
Number of individuals e.g. Individual plants/animals	No																			

Summary

Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost ($)		
					Direct offset ($)	Other compensatory measures ($)	Total ($)
Birth rate	0				$0.00		$0.00
Mortality rate	0				$0.00		$0.00
Number of individuals	0				$0.00		$0.00
Number of features	0				$0.00		$0.00
Condition of habitat	0				$0.00		$0.00
Area of habitat	14.82	14.97	101.04%	Yes	$0.00	N/A	$0.00
Area of community	0				$0.00		$0.00
					$0.00	**$0.00**	**$0.00**

Schedule 2F: Squatter pigeon – foraging – regrowth impact, regrowth offset

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Squatter Pigeon
EPBC Act status	Vulnerable
Annual probability of extinction. Based on IUCN category definitions	0.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator

Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Ecological communities						
Area of community	No		Area			
			Quality			
			Total quantum of impact	0.00		
Threatened species habitat						
Area of habitat	Yes		Area	1.3	Hectares	
			Quality	5	Scale 0-10	
			Total quantum of impact	0.65	Adjusted hectares	
Protected matter attributes	**Attribute relevant to case?**	**Description**	**Quantum of impact**		**Units**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Threatened species						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator

Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)		% of impact offset	Minimum (90%) direct offset requirement met?	Cost ($ total)	Information source
Ecological Communities																					
Area of community	No				Risk-related time horizon (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset										
									Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
Threatened species habitat																					
Area of habitat	Yes	0.65	Adjusted hectares	Offset with regrowth foraging habitat - RE 11.3.1	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	2.9	Risk of loss (%) without offset	20%	Risk of loss (%) with offset	0%									
									Future area without offset (adjusted hectares)	2.3	Future area with offset (adjusted hectares)	2.9	0.58	100%	0.58	0.66	0.66	101.17%	Yes		
					Time until ecological benefit	20	Start quality (scale of 0-10)	4	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	5	2.00	85%	1.70	1.63					
Protected matter attributes	**Attribute relevant to case?**	**Total quantum of impact**	**Units**	**Proposed offset**	**Time horizon (years)**		**Start value**		**Future value without offset**		**Future value with offset**		**Raw gain**	**Confidence in result (%)**	**Adjusted gain**	**Net present value**		**% of impact offset**	**Minimum (90%) direct offset requirement met?**	**Cost ($ total)**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No																				
Condition of habitat Change in habitat condition, but no change in extent	No																				
Threatened species																					
Birth rate e.g. Change in nest success	No																				
Mortality rate e.g. Change in number of road kills per year	No																				
Number of individuals e.g. Individual plants/animals	No																				

Summary

Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost ($)		
					Direct offset ($)	Other compeneatory measures ($)	Total ($)
Birth rate	0				$0.00		$0.00
Mortality rate	0				$0.00		$0.00
Number of individuals	0				$0.00		$0.00
Number of features	0				$0.00		$0.00
Condition of habitat	0				$0.00		$0.00
Area of habitat	0.65	0.66	101.17%	Yes	$0.00	N/A	$0.00
Area of community	0				$0.00		$0.00
					$0.00	**$0.00**	**$0.00**

Schedule 3: Habitat Quality Scores

Schedule 3A: Brigalow – impact 1 remnant

Assessment Unit - Regional Ecosystem	AU11 - RE 11.4.9			
Site Reference	**Benchmark**	**P07**		
	11.4.9	Raw Data	% Benchmark	Score
Recruitment of woody perennial species in EDL	100	100	100.00	5
Native plant species richness - trees	5	9	180.00	5
Native plant species richness - shrubs	10	12	120.00	5
Native plant species richness - grasses	5	4	80.00	2.5
Native plant species richness - Forbes	10	3	30.00	2.5
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 13 2. Sub-canopy: 8	1. Tree canopy: 11 2. Sub-canopy: 7	1. Tree canopy: 84.6 2. Sub-canopy: 87.5	5
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 25 2. Sub-canopy: 10	1. Tree canopy: 17.7 2. Sub-canopy: 8.1	1. Tree canopy: 70.8 2. Sub-canopy: 81	5
Shrub canopy cover	5	37.4	748.00	3
Native grass cover	20	2.6	13.00	1
Organic litter	45	38	84.44	5
Large trees	45	24	53.33	10
Coarse woody debris	1200	290	24.17	2
Non-native plant cover	0	1		10
Site Condition Score				61
MAX Site Condition Score	X	X		80
Site Condition Score - out of 7	**X**	**X**		**5.34**
Size of patch				10
Connectedness				2
Context				4
Ecological Corridors				0
Role of site location to TEC overall population in the state				1
Threats to the TEC				1
Site Context Score				18
MAX Site Context Score	X	X		46
Site Context Score - out of 3	**X**	**X**		**1.17**

Schedule 3B: Brigalow – offset 1 regrowth

Assessment Unit - Regional Ecosystem	AU04 - RE 11.3.1 young regrowth										AU02 - RE 11.4.9 regrowth						
Site Reference	**Benchmark**	B21			B22			B23			**Benchmark**	B11			B12		
	11.3.1	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	**11.4.9**	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score
Recruitment of woody perennial species in EDL	100.0	66.0	66	3	100.0	100	5	100.0	100	5	100.0	100.0	100	5.0	100.0	100	5
Native plant species richness - trees	3	2	67	2.5	1	33	2.5	1	33	2.5	5	4	80	2.5	2	40	2.5
Native plant species richness - shrubs	5	1	20	0	2	40	2.5	2	40	2.5	10	9	90	5	5	50	2.5
Native plant species richness - grasses	4	3	75	2.5	4	100	5	5	125	5	5	2	40	2.5	4	80	2.5
Native plant species richness - forbs	8	5	63	2.5	7	88	2.5	9	113	5	10	3	30	2.5	2	20	0
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 1 2. Sub-canopy: 0	1. Tree canopy: 7.14 2. Sub-canopy: 0	0	1. Tree canopy: 3 2. Sub-canopy: 0	1. Tree canopy: 21.43 2. Sub-canopy: 0	0	1. Tree canopy: 2 2. Sub-canopy: 0	1. Tree canopy: 14.29 2. Sub-canopy: 0	0	1. Tree canopy: 13 2. Sub-canopy: 8	1. Tree canopy: 5 2. Sub-canopy: 1	1. Tree canopy: 38.46 2. Sub-canopy: 12.5	1.5	1. Tree canopy: 5 2. Sub-canopy: 4.5	1. Tree canopy: 738.46 2. Sub-canopy: 56.25	3
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 19 2. Sub-canopy: 0	1. Tree canopy: 65.52 2. Sub-canopy: 0	2.5	1. Tree canopy: 3.8 2. Sub-canopy: 0	1. Tree canopy: 13.1 2. Sub-canopy: 0	1	1. Tree canopy: 2.1 2. Sub-canopy: 0	1. Tree canopy: 7.24 2. Sub-canopy: 0	0	1. Tree canopy: 25 2. Sub-canopy: 10	1. Tree canopy: 21.8 2. Sub-canopy: 2.2	1. Tree canopy: 87.2 2. Sub-canopy: 22	3.5	1. Tree canopy: 21.8 2. Sub-canopy: 2.2	1. Tree canopy: 87.2 2. Sub-canopy: 22	3.5
Shrub canopy cover	8	6.1	76	5	0	0	0	0	0	0	5	13.7	274	3	16.3	326	3
Native grass cover	8	1	13	1	21.4	268	5	16.4	205	5	20	0.2	1	0	1.6	8	0
Organic litter	34	27.6	81	5	16.2	48	3	35.6	105	5	45	38.6	86	5	15.8	35	3
Large trees	170	0	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0
Coarse woody debris	1752	20	1	0	20	1	0	10	1	0	1200	45	4	0	140	12	2
Non-native plant cover	0	1		10	2		10	1		10	0	2		10	1		10
Site Condition Score				34			36.5			40				40.5			37
MAX Site Condition Score	X	X		80	X		80	X		80	X			80	X		80
Site Condition Score - out of 7	**X**	**X**		**2.98**	**X**		**3.19**	**X**		**3.50**	**X**			**3.54**	**X**		**3.24**
Size of patch				5			5			5				2			2

Connectedness				0			0			0			0			0	
Context				0			2			0			0			0	
Ecological Corridors				0			0			0			0			0	
Role of site location to TEC overall population in the state				1			1			1			1			1	
Threats to the TEC				7			7			7			7			7	
Site Context Score				13			15			13			10			10	
MAX Site Context Score	X	X		46			46			46			46			46	
Site Context Score - out of 3	**X**	**X**		**0.85**			**0.98**			**0.85**			**0.65**			**0.65**	

Start quality

	AU4	AU02	Total
Site Condition score (out of 7)	3.22	3.39	3.31
Site Context Score (out of 3)	0.89	0.65	0.77
Habitat Quality score (out of 10)	4.11	4.04	4.08
Offset area (ha)	22	0	22.00
Size Weighting	1.00	0.00	1.00
Weighted Habitat Quality Score	**4.11**	**0.00**	**4.11**

Schedule 3C: Brigalow – impact 2 regrowth

Assessment Unit - Regional Ecosystem	AU06 - RE 11.4.9 regrowth			
Site Reference	**Benchmark**	**P03**		
	11.4.9	Raw Data	% Benchmark	Score
Recruitment of woody perennial species in EDL	100	100	100.00	5
Native plant species richness - trees	5	5	100.00	5
Native plant species richness - shrubs	10	9	90.00	5
Native plant species richness - grasses	5	5	100.00	5
Native plant species richness - forbes	10	4	40.00	2.5
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 13 2. Sub-canopy: 8	1. Tree canopy: 8 2. Sub-canopy: 5	1. Tree canopy: 61.54 2. Sub-canopy: 62.5	3
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 25 2. Sub-canopy: 10	1. Tree canopy: 0 2. Sub-canopy: 8.7	1. Tree canopy: 0 2. Sub-canopy: 87	2.5
Shrub canopy cover	5	41	820.00	3
Native grass cover	20	1.6	8.00	0
Organic litter	45	31.4	69.78	5
Large trees	45	8	17.78	5
Coarse woody debris	1200	205	17.08	2
Non-native plant cover	0	25		5
Site Condition Score				48
MAX Site Condition Score	X	X		80
Site Condition Score - out of 7	**X**	**X**		**4.20**
Size of patch				0
Connectedness				0
Context				2
Ecological Corridors				0
Role of site location to TEC overall population in the state				1
Threats to the TEC				7
Site Context Score				10
MAX Site Context Score	X	X		46
Site Context Score - out of 3	**X**	**X**		**0.65**

Schedule 3D: Brigalow – offset 2 regrowth

Assessment Unit - Regional Ecosystem	AU04 - RE 11.3.1 young regrowth										AU02 - RE 11.4.9 regrowth							
Site Reference	**Benchmark**	B21			B22			B23			**Benchmark**	B11			B12			
	11.3.1	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	**11.4.9**	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	
Recruitment of woody perennial species in EDL	100.0	66.0	66	3	100.0	100	5	100.0	100	5	100.0	100.0	100	5.0	100.0	100	5	
Native plant species richness - trees	3	2	67	2.5	1	33	2.5	1	33	2.5	5	4	80	2.5	2	40	2.5	
Native plant species richness - shrubs	5	1	20	0	2	40	2.5	2	40	2.5	10	9	90	5	5	50	2.5	
Native plant species richness - grasses	4	3	75	2.5	4	100	5	5	125	5	5	2	40	2.5	4	80	2.5	
Native plant species richness - forbs	8	5	63	2.5	7	88	2.5	9	113	5	10	3	30	2.5	2	20	0	
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 1 2. Sub-canopy: 0	1. Tree canopy: 7.14 2. Sub-canopy: 0	0	1. Tree canopy: 3 2. Sub-canopy: 0	1. Tree canopy: 21.43 2. Sub-canopy: 0	0	1. Tree canopy: 2 2. Sub-canopy: 0	1. Tree canopy: 14.29 2. Sub-canopy: 0	0	1. Tree canopy: 13 2. Sub-canopy: 8	1. Tree canopy: 5 2. Sub-canopy: 1	1. Tree canopy: 38.46 2. Sub-canopy: 12.5	1.5	1. Tree canopy: 5 2. Sub-canopy: 4.5	1. Tree canopy: 738.46 2. Sub-canopy: 56.25	3	
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 19 2. Sub-canopy: 0	1. Tree canopy: 65.52 2. Sub-canopy: 0	2.5	1. Tree canopy: 3.8 2. Sub-canopy: 0	1. Tree canopy: 13.1 2. Sub-canopy: 0	1	1. Tree canopy: 2.1 2. Sub-canopy: 0	1. Tree canopy: 7.24 2. Sub-canopy: 0	0	1. Tree canopy: 25 2. Sub-canopy: 10	1. Tree canopy: 21.8 2. Sub-canopy: 2.2	1. Tree canopy: 87.2 2. Sub-canopy: 22	3.5	1. Tree canopy: 21.8 2. Sub-canopy: 2.2	1. Tree canopy: 87.2 2. Sub-canopy: 22	3.5	
Shrub canopy cover	8	6.1	76	5	0	0	0	0	0	0	5	13.7	274	3	16.3	326	3	
Native grass cover	8	1	13	1	21.4	268	5	16.4	205	5	20	0.2	1	0	1.6	8	0	
Organic litter	34	27.6	81	5	16.2	48	3	35.6	105	5	45	38.6	86	5	15.8	35	3	
Large trees	170	0	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	
Coarse woody debris	1752	20	1	0	20	1	0	10	1	0	1200	45	4	0	140	12	2	
Non-native plant cover	0	1		10	2		10	1		10	0	2		10	1		10	
Site Condition Score				34			36.5			40				40.5			37	
MAX Site Condition Score	X	X		80	X		80	X		80	X			80	X		80	
Site Condition Score - out of 7	**X**	**X**		**2.98**	**X**		**3.19**	**X**		**3.50**	**X**			**3.54**	**X**		**3.24**	

Size of patch				5			5			5			2			2
Connectedness				0			0			0			0			0
Context				0			2			0			0			0
Ecological Corridors				0			0			0			0			0
Role of site location to TEC overall population in the state				1			1			1			1			1
Threats to the TEC				7			7			7			7			7
Site Context Score				13			15			13			10			10
MAX Site Context Score	X	X		46			46			46			46			46
Site Context Score - out of 3	**X**	**X**		**0.85**			**0.98**			**0.85**			**0.65**			**0.65**

Start quality

	AU4	AU02	Total
Site Condition score (out of 7)	3.22	3.39	3.31
Site Context Score (out of 3)	0.89	0.65	0.77
Habitat Quality score (out of 10)	4.11	4.04	4.08
Offset area (ha)	3	0	3.00
Size Weighting	1.00	0.00	1.00
Weighted Habitat Quality Score	**4.11**	**0.00**	**4.11**

Schedule 3E: Squatter pigeon, breeding – impact remnant

Assessment Unit - Regional Ecosystem		AU2 RE 11.7.2 (remnant)				P11 is foraging habitat, not breeding habitat			AU1 RE 11.7.2 (remnant)				AU3 RE 11.5.3 (remnant)				AU4 RE 11.5.3 (remnant)			
Site Reference		**Benchmark**	P01			P11			**Benchmark**	P14			**Benchmark**	P02			**Benchmark**	P05		
	Max Value	**11.7.2**	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	**11.7.2**	Raw Data	% Benchmark	Score	**11.5.3**	Raw Data	% Benchmark	Score	**11.5.3**	Raw Data	% Benchmark	Score
Recruitment of woody perennial species in EDL	5	**100**	100	100	5				**100**	100	100	5	**100**	100	100	5	**100**	50	50.0	3
Native plant species richness - trees	5	**3**	10	333.33	5				**3**	3	100	5	**6**	4	66.67	2.5	**6**	10	166.7	5
Native plant species richness - shrubs	5	**4**	5	125	5				**4**	11	275	5	**6**	10	166.67	5	**6**	14	233.3	5
Native plant species richness - grasses	5	**5**	6	120	5				**5**	11	220	5	**6**	7	116.67	5	**6**	11	183.3	5
Native plant species richness - forbs	5	**5**	4	80	2.5				**5**	5	100	5	**10**	2	20	0	**10**	3	30.0	2.5
Tree canopy height (average of emergent, canopy and sub-canopy layers)	5	1. Tree canopy: 15 2. Sub-canopy: 5	1. Tree canopy: 9 2. Sub-canopy: 2	1. Tree canopy: 60 2. Sub-canopy: 40	3				1. Tree canopy: 15 2. Sub-canopy: 5	1. Tree canopy: 8 2. Sub-canopy: 5	1. Tree canopy: 53.33 2. Sub-canopy: 100.00	4	1. Tree canopy: 16 2. Sub-canopy: 7	1. Tree canopy: 13 2. Sub-canopy: 6	1. Tree canopy: 81.25 2. Sub-canopy: 85.71	5	1. Tree canopy: 16 2. Sub-canopy: 7	1. Tree canopy: 14 2. Sub-canopy: 8	1. Tree canopy: 87.5 2. Sub-canopy: 114.29	5
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	5	1. Tree canopy: 40 2. Sub-canopy: 4	1. Tree canopy: 51 2. Sub-canopy: 15.8	1. Tree canopy: 127.5 2. Sub-canopy: 395	4				1. Tree canopy: 40 2. Sub-canopy: 4	1. Tree canopy: 21.8 2. Sub-canopy: 2.2	1. Tree canopy: 54.5 2. Sub-canopy: 55	5	1. Tree canopy: 20 2. Sub-canopy: 3	1. Tree canopy: 32.7 2. Sub-canopy: 11.4	1. Tree canopy: 163.5 2. Sub-canopy: 380	4	1. Tree canopy: 20 2. Sub-canopy: 3	1. Tree canopy: 29.6 2. Sub-canopy: 3.1	1. Tree canopy: 148 2. Sub-canopy: 103.33	5
Shrub canopy cover	5	**4**	62	1550	3				**4**	62	1550	3	**3**	8.9	296.67	3	**3**	10.6	353.3	3
Native grass cover	5	**15**	14.4	96	5				**15**	2.6	17.33	1	**19**	11.2	58.95	3	**19**	10.4	54.7	3
Organic litter	5	**20**	42.2	211	3				**20**	13.6	68	5	**20**	55	275	3	**20**	32.4	162.0	5
Large trees	15	**36**	20	55.6	10				**36**	12	33.33	5	**35**	2	5.71	5	**35**	18	51.4	10
Coarse woody debris	5	**1214**	730	60.13	5				**1214**	990	81.55	5	**314**	285	90.76	5	**314**	185	58.9	5
Non-native plant cover	10	**0**	15		5				**0**	1		10	**0**	25		5	**0**	3		10
Quality and availability of food and	10				10							10				10				5

foraging habitat																			
Quality and availability of shelter	10				10						10				10				5
Site Condition Score					80.5						83				70.5				76.5
MAX Site Condition Score	100	X	X		100			X	X		100	X	X		100	X	X		100
Site Condition Score - out of 3	3	**X**	**X**		**2.42**			**X**	**X**		**2.49**	**X**	**X**		**2.12**	**X**	**X**		**2.30**

Site Context

In accordance with the DES BioCondition Guidelines, site context is calculated by assessment site, not assessment unit. The site context values for assessment sites have been calculated and are provided in the BioCondition Report. These correct values have been included below.

Squatter Pigeon habitat in Impact Area				**Value**	**Score**	**Value**	**Score**	**Value**	**Score**		**Value**	**Score**
Size of patch		10		>200 ha	10	5-25 ha	2	5-25 ha	2		>200 ha	10
Connectedness		5		Very high	5	low	0	low	0		medium	2
Context		5		Medium	2	low	0	medium	2		high	4
Ecological Corridors		6		Adjacent to	4	within	6	adjacent	4		none	0
Role of site location to species overall population in the state		5		not critical	1	not critical	1	not critical	1		not critical	1
Threats to the species		15		low	15	low	15	low	15		low	15
Species mobility capacity		10		minor restriction	10	minor restriction	10	minor restriction	10		minor restrictions	10
Site Context Score												42
MAX Site Context Score		*56*			47		34		34			56
Site Context Score - out of 3		**3.00**			**2.52**		**1.82**		**1.82**			**2.25**

Species Stock Rate (SSR)

SSR Score = 2.5 (25 out of 40)

Presence detected on or adjacent to site (neighbouring property with		Score	0		10
			No		Yes

connecting habitat)							
Species usage of the site (habitat type & evidenced usage)		Score	0	5	10	15	
			Not habitat	Dispersal	Foraging	Breeding	
Role/importance of species population on site*		Score	0	5	10	15	
		(Total from supplementary table below)	0	5 - 15	20 - 35	40	

Key source population for breeding		Score	0	10
			No	Yes
Key source population for dispersal		Score	0	5
			No	Yes
Necessary for maintaining genetic diversity		Score	0	15
			No	Yes
Near the limit of the species range		Score	0	15
			No	Yes

AU13 RE 11.5.3 (remnant)				AU14 RE 11.5.3 (remnant)				AU7 RE 11.5.3 (remnant)			
Benchmark	P08			**Benchmark**	P12			**Benchmark**	P15		
11.5.3	Raw Data	% Benchmark	Score	**11.5.3**	Raw Data	% Benchmark	Score	**11.5.3**	Raw Data	% Benchmark	Score
100	50	50	3	**100**	100	100	5	**100**	100	100	5
6	6	100	5	**6**	6	100	5	**6**	6	100	5
6	6	100	5	**6**	10	167	5	**6**	11	183.33	5
6	6	100	5	**6**	6	100	5	**6**	6	100	5
10	2	20	0	**10**	3	30	2.5	**10**	7	70	2.5
1. Tree canopy: 16 2. Sub-canopy: 7	1. Tree canopy: 14 2. Sub-canopy: 6	1. Tree canopy: 87.5 2. Sub-canopy: 85.7	5	1. Tree canopy: 16 2. Sub-canopy: 7	1. Tree canopy: 13 2. Sub-canopy: 5	1. Tree canopy: 81.25 2. Sub-canopy: 71.43	5	1. Tree canopy: 16 2. Sub-canopy: 7	1. Tree canopy: 13 2. Sub-canopy: 4	1. Tree canopy: 81.25 2. Sub-canopy: 57.14	2
1. Tree canopy: 20 2. Sub-canopy: 3	1. Tree canopy: 10.8 2. Sub-canopy: 40.6	1. Tree canopy: 54 2. Sub-canopy: 1353.3	4	1. Tree canopy: 20 2. Sub-canopy: 3	1. Tree canopy: 67.5 2. Sub-canopy: 0	1. Tree canopy: 337.5 2. Sub-canopy: 0	1.5	1. Tree canopy: 20 2. Sub-canopy: 3	1. Tree canopy: 1.8 2. Sub-canopy: 6.8	1. Tree canopy: 9 2. Sub-canopy: 226.67	3
3	2.1	70	5	**3**	9.4	313	3	**3**	5.6	186.67	5
19	8.2	43	1	**19**	7.2	38	1	**19**	46.2	243.16	5
20	1	5	0	**20**	67	335	3	**20**	36	180	5
35	6	17	5	**35**	6	17	5	**35**	4	11.42857143	5
314	325	104	5	**314**	495	158	5	**314**	340	108.28	5
0	5		5	**0**	2		10	**0**	1		10
			5			10	5				5
			5			10	5				5
			58				66				72.5
X	X		100	X	X		100	X	X		100

X	X		1.74	X	X		1.98	X	X		2.18

Value	Score
>200 ha	10
medium	2
low	0
none	0
not critical	1
low	15
minor restriction	10
	38
	2.04

Value	Score
>200 ha	10
Very high	5
high	4
none	0
not critical	1
low	15
minor restriction	10
	45
	2.41

Value	Score
25-100 ha	5
medium	2
high	4
none	0
not critical	1
low	15
minor restriction	10
	37
	1.98

AU5 RE 11.3.4 (remnant)				**AU10 RE 11.3.4 (remnant)**				**AU17 RE 11.3.25 (remnant)**			
Benchmark	P04			**Benchmark**	P06			**Benchmark**	P09		
11.3.4	Raw Data	% Benchmark	Score	**11.3.4**	Raw Data	% Benchmark	Score	**11.3.25**	Raw Data	% Benchmark	Score
100	50	50	3	100	25	25	3	**100**	25	25	3
4	8	200	5	4	15	375	5	**4**	13	325	5
2	4	200	5	2	3	150	5	**2**	2	100	5
7	4	57	2.5	7	3	43	2.5	**8**	6	75	2.5
10	9	90	5	10	2	20	0	**12**	2	16.67	0
1. Tree canopy: 22 2. Sub-canopy: 12	1. Tree canopy: 16 2. Sub-canopy: 10	1. Tree canopy: 72.73 2. Sub-canopy: 83.33	5	1. Tree canopy: 22 2. Sub-canopy: 12	1. Tree canopy: 16 2. Sub-canopy: 6	1. Tree canopy: 72.73 2. Sub-canopy: 50	4	1. Tree canopy: 23 2. Sub-canopy: NA	1. Tree canopy: 18 2. Sub-canopy: NA	1. Tree canopy: 78.26 2. Sub-canopy: NA	5
1. Tree canopy: 17 2. Sub-canopy: 5	1. Tree canopy: 58.5 2. Sub-canopy: 22.3	1. Tree canopy: 344.12 2. Sub-canopy: 446	3	1. Tree canopy: 17 2. Sub-canopy: 5	1. Tree canopy: 30.5 2. Sub-canopy: 18.6	1. Tree canopy: 179.41 2. Sub-canopy: 372	4	1. Tree canopy: 22 2. Sub-canopy: NA	1. Tree canopy: 23.3 2. Sub-canopy: NA	1. Tree canopy: 105.91 2. Sub-canopy: NA	5
1	1.3	130	5	1	2.7	270	3	**1**	0.3	30.00	3
43	4	9	0	43	0	0	0	**12**	0.8	6.67	0
20	39	195	5	20	60	300	3	**15**	9.2	61.33	5
35	10	29	5	35	18	51	10	**21**	14	66.67	10
384	190	49	2	384	230	60	5	**375**	230	61.33	5
0	50		3	0	25		5	**0**	2		10
			10				10				10
			10				10				10
			68.5				69.5				78.5
X	X		100	X	X		100	X	X		100
X	**X**		**2.06**	**X**	**X**		**2.09**	**X**	**X**		**2.36**

Value	Score
5-25 ha	2
low	0
low	0
none	0
not critical	1
low	15
minor restriction	10
	28
	1.50

Value	Score
>200 ha	10
medium	2
high	4
none	0
not critical	1
low	15
minor restriction	10
	42
	2.25

Value	Score
>200 ha	10
low	0
medium	2
none	0
not critical	1
low	15
minor restriction	10
	38
	2.04

AU12 RE 11.3.25 (remnant)				**AU9 RE 11.5.9 (remnant)**				**AU16 RE 11.3.2 (remnant)**			
Benchmark	P19			**Benchmark**	P18			**Benchmark**	P13		
11.3.25	Raw Data	% Benchmark	Score	**11.5.9**	Raw Data	% Benchmark	Score	**11.3.2**	Raw Data	% Benchmark	Score
100	75	75	5	**100**	0	0	0	100	75	75	5
4	11	275	5	**3**	9	300	5	2	7	350	5
2	9	450	5	**6**	5	83.33	2.5	2	6	300	5
8	2	25	2.5	**9**	4	44.44	2.5	9	9	100	5
12	5	41.67	2.5	**11**	7	63.64	2.5	17	2	11.76	0
23	19	82.61	5	1. Tree canopy: 17 2. Sub-canopy: 8	1. Tree canopy: 17 2. Sub-canopy: 6	1. Tree canopy: 100 2. Sub-canopy: 75	5	1. Tree canopy: 18 2. Sub-canopy: NA	1. Tree canopy: 12 2. Sub-canopy: NA	1. Tree canopy: 66.67 2. Sub-canopy: NA	5
22	40.9	185.91	5	1. Tree canopy: 35 2. Sub-canopy: 5	1. Tree canopy: 35.1 2. Sub-canopy: 2.8	1. Tree canopy: 140.4 2. Sub-canopy: 56	5	1. Tree canopy: 40 2. Sub-canopy: NA	1. Tree canopy: 22.8 2. Sub-canopy: NA	1. Tree canopy: 57 2. Sub-canopy: NA	5
1	1.9	190	5	**10**	3.6	36	3	2	0.5	25	3
12	0.4	3.33	0	**26**	0	0	0	35	15.2	43.43	1
15	31.2	208	3	**30**	25.8	86	5	30	18.4	61.33	5
21	24	114.29	15	**20**	20	100	15	22	6	27.27	5
375	230	61.33	5	**342**	380	111.11	5	307	120	39.09	2
0	35		3	**0**	60		0	0	5		5
			10				10				10
			10				10				10
			81				70.5				71
X	X		100	X	X		100	X	X		100
X	**X**		**2.43**	**X**	**X**		**2.12**	**X**	**X**		**2.13**

Value	Score
>200 ha	10
high	4

Value	Score
100-200 ha	7
medium	2

Value	Score
>200 ha	10
medium	2

medium	2	high	4	high	4
none	0	none	0	none	0
not critical	1	not critical	1	not critical	1
low	15	low	15	low	15
minor restriction	10	minor restriction	10	minor restriction	10
	42		39		42
	2.25		**2.09**		**2.25**

Start quality	**AU2**	**AU1**	**AU3**	**AU4**	**AU13**	**AU14**	**AU7**	**AU5**	**AU10**	**AU17**	**AU12**
Site Condition score (out of 7)	2.42	2.49	2.12	2.30	1.74	1.98	2.18	2.06	2.09	2.36	2.43
Site Context Score (out of 3)	2.52	1.82	1.82	2.25	2.04	2.41	1.98	1.50	2.25	2.04	2.25
Species Stocking Rate Score (out of 4)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Habitat Quality score (out of 10)	7.43	6.81	6.44	7.05	6.28	6.89	6.66	6.06	6.84	6.89	7.18
Impacted area (ha)	2.1	3.4	4.7	4.4	4.5	2	2.6	1.9	3.9	0.7	1.7
Size Weighting	0.04	0.06	0.08	0.08	0.08	0.04	0.05	0.03	0.07	0.01	0.03
Weighted Habitat Quality Score	**0.27**	**0.41**	**0.53**	**0.54**	**0.50**	**0.24**	**0.30**	**0.20**	**0.47**	**0.08**	**0.21**

Start quality	**AU09**	**AU16**	**Balance of Approved Breeding Limit**	**Final score**
Site Condition score (out of 7)	2.12	2.13	2.42	**2.20**
Site Context Score (out of 3)	2.09	2.25	2.52	**2.12**
Species Stocking Rate Score (out of 4)	2.5	2.5	2.5	**2.50**
Habitat Quality score (out of 10)	6.70	6.88	7.43	**6.82**
Impacted area (ha)	4.8	0.8	19.5	**57.00**
Size Weighting	0.08	0.01	0.34	**1.00**
Weighted Habitat Quality Score	**0.56**	**0.10**	**2.54**	**6.82**

Schedule 3F: Squatter pigeon, breeding – offset remnant

Assessment Unit - Regional Ecosystem	AU06 - RE 11.3.25 (remnant)								AU11 - RE 11.3.3 (remnant)							
Site Reference	**Benchmark**	B07			B05			*Average Score*	**Benchmark**	B01			B03			*Average Score*
	11.3.25	Raw Data	% Benchmark	Score	Raw Data		Score		**11.3.3**	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	
Recruitment of woody perennial species in EDL	100	0	0	0	50	50	3	1.5	100	100	100	5	50	50	5	5.0
Native plant species richness - trees	4	10	250	5	5	125	5	5	3	6	200	5	8	267	5	5.0
Native plant species richness - shrubs	2	5	250	5	5	250	5	5	5	6	120	5	5	100	5	5.0
Native plant species richness - grasses	8	6	75	2.5	0	0	2.5	2.5	12	5	42	2.5	5	42	2.5	2.5
Native plant species richness - forbs	12	4	33	2.5	4	33	2.5	2.5	15	9	60	2.5	8	53	2.5	2.5
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 23 2. Sub-canopy: NA	1. Tree canopy: 22 2. Sub-canopy: NA	1. Tree canopy: 95.65 2. Sub-canopy: NA	5	1. Tree canopy: 25.0 2. Sub-canopy: NA	1. Tree canopy: 108.7 2. Sub-canopy: NA	5	5	1. Tree canopy: 18 2. Sub-canopy: 10	1. Tree canopy: 23 2. Sub-canopy: 0	1. Tree canopy: 127.78 2. Sub-canopy: 0	2.5	1. Tree canopy: 21 2. Sub-canopy: 0	1. Tree canopy: 116.67 2. Sub-canopy: 0	2.5	2.5
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 22 2. Sub-canopy: NA	1. Tree canopy: 53.4 2. Sub-canopy: NA	1. Tree canopy: 242.73 2. Sub-canopy: NA	3	1. Tree canopy: 23.1 2. Sub-canopy: NA	1. Tree canopy: 105 2. Sub-canopy: NA	5	4	1. Tree canopy: 28 2. Sub-canopy: 5	1. Tree canopy: 66.1 2. Sub-canopy: 0	1. Tree canopy: 236.07 2. Sub-canopy: 0	1.5	1. Tree canopy: 70 2. Sub-canopy: 0	1. Tree canopy: 250 2. Sub-canopy: 0	1.5	1.5
Shrub canopy cover	1	44.8	4480	3	10.9	1090	3	3	4	2.5	63	5	0	0	0	2.5
Native grass cover	12	12.2	102	5	0	0	0	2.5	45	10	22	1	18.8	42	1	1.0
Organic litter	15	50.6	337	3	63	420	3	3	30	33	110	5	63	210	3	4.0
Large trees	21	42	200	15	32	152	15	15	10	18	180	15	16	160	15	15.0
Coarse woody debris	375	600	160	5	940	251	2	3.5	285	1150	404	2	335	118	5	3.5
Non-native plant cover	0	2		10	60		0	5	0	0.1		10	1		10	10.0
Quality and availability of food and foraging habitat				10			10	10				5			5	5.0
Quality and availability of shelter				10			10	10				5			5	5.0

Site Condition Score				84			71	77.50				72			68	70.00
MAX Site Condition Score	X	X		100	X		100	100	X	X		100	X		100	100
Site Condition Score - out of 3	**X**	**X**		**2.52**	**X**		**2.13**	**2.33**	**X**	**X**		**2.16**	**X**		**2.04**	**2.10**

Site Context

Squatter Pigeon habitat in Impact Area			**Value**	**Score**	**Value**	**Score**	**Average Score**	**Value**	**Score**	**Value**	**Score**	**Average Score**
Size of patch			5-25 ha	2	5-25 ha	2	2	25-100 ha	5	25-100 ha	5	5.0
Connectedness			medium	2	medium	2	2	low	0	low	0	0.0
Context			low	0	low	0	0	medium	2	medium	2	2.0
Ecological Corridors			within	6	within	6	6	none	0	none	0	0.0
Role of site location to species overall population in the state			not critical	1	not critical	1	1	not critical	1	not critical	1	1.0
Threats to the species			moderate	7	moderate	7	7	moderate	7	moderate	7	7.0
Species mobility capacity			minor restrictions	10	minor restrictions	10	10	minor restrictions	10	minor restrictions	10	10.0
Site Context Score				28		28	28		25		25	25
MAX Site Context Score				56		56	56		56		56	56
Site Context Score - out of 3				**1.50**		**1.50**	**1.50**		**1.34**		**1.34**	**1.34**

Species Stock Rate (SSR) score of 2.5 (25/40)

Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0		10	
		No		Yes	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15
		Not habitat	Dispersal	Foraging	Breeding
	Score	0	5	10	15

Role/importance of species population on site*	(Total from supplementary table below)	0	5 - 15	20 - 35	40

Key source population for breeding	Score	0	10
		No	Yes
Key source population for dispersal	Score	0	5
		No	Yes
Necessary for maintaining genetic diversity	Score	0	15
		No	Yes
Near the limit of the species range	Score	0	15
		No	Yes

Final habitat quality score (weighted)

start quality

	AU06	AU11	Total
Site Condition score (out of 3)	2.33	2.10	2.33
Site Context Score (out of 3)	1.50	1.34	1.50
Species Stocking Rate Score (out of 4)	2.5	2.5	2.50
Habitat Quality score (out of 10)	6.33	5.94	6.33
Offset area of AU (ha)	9.4	0	9.4
Size Weighting	1.00	0.00	1.00
Weighted Habitat Quality Score	**6.33**	**0.00**	**6.33**

Schedule 3G: Squatter pigeon, breeding – offset regrowth

Assessment Unit - Regional Ecosystem	AU04 - RE 11.3.1 young regrowth											
Site Reference	**Benchmark**	B22			B23			B21				
	11.3.1	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	*Average Raw*	*Average Score*
Recruitment of woody perennial species in EDL	**100**	100	100	5	100	100	5	66	66	3	89	4.3
Native plant species richness - trees	**3**	1	33.33	2.5	1	33.33	2.5	2	66.67	2.5	1	2.5
Native plant species richness - shrubs	**5**	2	40	2.5	2	40	2.5	1	20	0	2	1.7
Native plant species richness - grasses	**4**	4	100	5	5	125	5	3	75.00	2.5	4	4.2
Native plant species richness - forbs	**8**	7	87.5	2.5	9	112.5	5	5	62.5	2.5	7	3.3
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 3 2. Sub-canopy: 0	1. Tree canopy: 21.43 2. Sub-canopy: 0	0	1. Tree canopy: 2 2. Sub-canopy: 0	1. Tree canopy: 14.29 2. Sub-canopy: 0	0	1. Tree canopy: 1 2. Sub-canopy: 0	1. Tree canopy: 7.14 2. Sub-canopy: 0	0	0	0.0
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 3.8 2. Sub-canopy: 0	1. Tree canopy: 13.1 2. Sub-canopy: 0	1	1. Tree canopy: 2.1 2. Sub-canopy: 0	1. Tree canopy: 7.24 2. Sub-canopy: 0	0	1. Tree canopy: 19 2. Sub-canopy: 0	1. Tree canopy: 65.52 2. Sub-canopy: 0	2.5	0	1.2
Shrub canopy cover	**8**	0	0	0	0	0	0	6	76	5	2	1.7
Native grass cover	**8**	21	268	5	16	205	5	1	13	1	13	3.7
Organic litter	**34**	16	48	3	36	105	5	28	81	5	26	4.3
Large trees	**170**	0	0	0	0	0	0	0	0	0	0	0.0
Coarse woody debris	**1752**	20	1	0	10	1	0	20	1	0	17	0.0
Non-native plant cover	**0**	2		10	1		10	1		10	1	10.0
Quality and availability of food and foraging habitat				1			1			1		1.0
Quality and availability of shelter				1			1			1		1.0
Site Condition Score				39			42			36.0		38.8
MAX Site Condition Score	X			100			100	X		100	X	100
Site Condition Score - out of 3	**X**			**1.16**			**1.26**	**X**		**1.08**	**X**	**1.17**

Site Context

Squatter Pigeon habitat in Impact Area	**Value**	**Value**	**Score**		**Value**	**Score**		**Value**	**Score**		**Average Score**
Size of patch		25-200 ha	5		25-200 ha	5		25-200 ha	5		5.0
Connectedness		low	0		low	0		low	0		0.0
Context		medium	2		low	0		low	0		0.7
Ecological Corridors		none	0		none	0		none	0		0.0
Role of site location to species overall population in the state		not critical	1		not critical	1		not critical	1		1.0
Threats to the species		moderate	7		moderate	7		moderate	7		7.0
Species mobility capacity		minor restrictions	10		minor restrictions	10		minor restrictions	10		10.0

Site Context Score		25	23	23	23.7
MAX Site Context Score		56	56	56	56
Site Context Score - out of 3		**1.34**	**1.23**	**1.23**	**1.27**

Species Stock Rate (SSR) 2.5 (25/40)

Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0		10	
		No		Yes	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15
		Not habitat	Dispersal	Foraging	Breeding
Role/importance of species population on site*	Score	0	5	10	15
	(Total from supplementary table below)	0	5 - 15	20 - 35	40

Key source population for breeding	Score	0	10
		No	Yes
Key source population for dispersal	Score	0	5
		No	Yes
Necessary for maintaining genetic diversity	Score	0	15
		No	Yes
Near the limit of the species range	Score	0	15
		No	Yes

AU5 - RE 11.3.4			
Benchmark	B06		
11.3.4	Raw Data	% Benchmark	Score
100	100	100	5
4	6	150	5
2	10	500	5
7	5	71.43	2.5
10	4	40	2.5
1. Tree canopy: 22 2. Sub-canopy: 12	1. Tree canopy: 13 2. Sub-canopy: 4	1. Tree canopy: 59.09 2. Sub-canopy: 33.33	3
1. Tree canopy: 17 2. Sub-canopy: 5	1. Tree canopy: 24.7 2. Sub-canopy: 4.2	1. Tree canopy: 145.29 2. Sub-canopy: 84	5
1	9	930	3
43	1	2	0
20	70	350	3
35	2	6	5
384	370	96	5
0	55		0
			10
			10

			64.0
X	X		100
X	**X**		**1.92**

Value	Score
5-25 ha	2
medium	2
low	0
within	6
not critical	1
moderate	7
minor restrictions	10

		28.0
		56
		1.50

AU08 - RE 11.3.3 young regrowth											
Benchmark	B24			B17			B18				
11.3.3	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Average Raw	*Average Score*
100	100	100	5	100	100	5	100	100	5	100.0	5.0
3	3	100	5	2	66.67	2.5	3	100	5	2.7	4.2
5	10	200	5	5	100	5	6	120	5	7.0	5.0
12	5	41.67	2.5	4	33.33	2.5	6	50	2.5	5.0	2.5
15	3	20	0	2	13.33	0	8	53	2.5	4.3	0.8
1. Tree canopy: 18 2. Sub-canopy: 10	1. Tree canopy: 2 2. Sub-canopy: 3	1. Tree canopy: 11.11 2. Sub-canopy: 30	1.5	1. Tree canopy: 3 2. Sub-canopy: 3	1. Tree canopy: 16.67 2. Sub-canopy: 30	1.5	1. Tree canopy: 2 2. Sub-canopy: 3	1. Tree canopy: 11.11 2. Sub-canopy: 30	1.5		1.5
1. Tree canopy: 28 2. Sub-canopy: 5	1. Tree canopy: 2.6 2. Sub-canopy: 1.5	1. Tree canopy: 9.29 2. Sub-canopy: 30	1	1. Tree canopy: 1.2 2. Sub-canopy: 0	1. Tree canopy: 4.29 2. Sub-canopy: 0	0	1. Tree canopy: 0 2. Sub-canopy: 10	1. Tree canopy: 0 2. Sub-canopy: 200	2.5		1.2
4	7	180	5	1	30	3	2	60	5	3.6	4.3
45	2	4	0	8	17	1	25	56	3	11.5	1.3
30	18	61	5	17	55	5	20	67	5	18.3	5.0
10	0	0	0	0	0	0	0	0	0	0.0	0.0
285	60	21	2	220	77	5	70	25	2	116.7	3.0
0	10		5	5		5	1		10	5.3	6.7
			1			1			1		1.0
			1			1			1		1.0
			39.0			37.5			51.0		42.5

X	X		100		100	X		100	X	100
X	**X**		**1.17**		**1.13**	**X**		**1.53**	**X**	**1.28**

Value	Score
25-200 ha	5
medium	2
medium	2
adjacent	4
not critical	1
moderate	7
minor restrictions	10
	31.0
	56
	1.66

Value	Score
25-200 ha	5
medium	2
medium	2
none	0
not critical	1
moderate	7
minor restrictions	10
	27.0
	56
	1.45

Value	Score		Average Score
25-200 ha	5		5.0
medium	2		2.0
medium	2		2.0
none	0		1.3
not critical	1		1.0
moderate	7		7.0
minor restrictions	10		10.0
	27.0		28.3
	56		56
	1.45		**1.52**

AU01 - RE 11.3.1 (regrowth)				**AU07 - RE 11.3.4 (regrowth)**				**AU13 - RE 11.3.3 (young regrowth)**			
Benchmark	B10			**Benchmark**	B08			**Benchmark**	B16		
11.3.1	Raw Data	% Benchmark	Score	**RE 11.3.4**	Raw Data	% Benchmark	Score	**RE 11.3.3**	Raw Data	% Benchmark	Score
100	100	100	5	100	100	100	5	100	100	100	5
3	4	133	5	4	7	175	5	3	2	66.67	2.5
5	4	80	2.5	2	11	550	5	5	3	60	2.5
4	5	125	5	7	4	57	2.5	12	4	33	2.5
8	3	38	2.5	10	1	10	0	15	6	40	2.5
1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 6.5 2. Sub-canopy: 2.5	1. Tree canopy: 46.43 2. Sub-canopy: 62.5	3	1. Tree canopy: 22 2. Sub-canopy: 12	1. Tree canopy: 10 2. Sub-canopy: 8	1. Tree canopy: 45.45 2. Sub-canopy: 66.67	3	1. Tree canopy: 18 2. Sub-canopy: 10	1. Tree canopy: 2.5 2. Sub-canopy: 4	1. Tree canopy: 13.89 2. Sub-canopy: 40	1.5
1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 18.3 2. Sub-canopy: 2.1	1. Tree canopy: 63.1 2. Sub-canopy: 23.33	3.5	1. Tree canopy: 17 2. Sub-canopy: 5	1. Tree canopy: 15.6 2. Sub-canopy: 43.9	1. Tree canopy: 91.76 2. Sub-canopy: 878	4	1. Tree canopy: 28 2. Sub-canopy: 5	1. Tree canopy: 0 2. Sub-canopy: 2.9	1. Tree canopy: 0 2. Sub-canopy: 58	2.5
8	7	85	5	1	23.6	2360	3	4	1.1	3	0
8	0	3	0	43	0	0	0	45	18.6	41	1
34	7	20	3	20	72.4	362	3	30	10.6	35	3
170	0	0	0	35	8	23	5	10	0	0	0
1752	115	7	0	384	465	121	5	285	0	0	0
0	2		10	0	5		5	0	1		10
			5				10				1
			5				5				1
			54.5				60.5				35

X	X		100				100				100	
X	**X**		**1.64**				**1.82**				**1.05**	

	Value	Score		Value	Score		Value	Score
	5-25 ha	2		5-25 ha	2		25-200 ha	5
	low	0		medium	2		medium	2
	low	0		low	0		medium	2
	none	0		within	6		none	0
	not critical	1		not critical	1		not critical	1
	moderate	7		moderate	7		moderate	7
	minor restrictions	10		minor restrictions	10		minor restrictions	10
		20.0			28.0			27.0
		56			56			56

AU14 - RE 11.3.1 (young regrowth)				AU03 - RE 11.3.1 (regrowth)			
Benchmark	B15			**Benchmark**	B09		
RE 11.3.1	Raw Data	% Benchmark	Score	**RE 11.3.1**	Raw Data	% Benchmark	Score
100	100	100	5	100	100	100	5
3	2	67	2.5	3	2	67	2.5
5	4	80	2.5	5	2	40	2.5
4	4	100	5	4	5	125	5
8	6	75	2.5	8	4	50	2.5
1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 1.5 2. Sub-canopy: 2	1. Tree canopy: 10.71 2. Sub-canopy: 50	1.5	1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 5.5 2. Sub-canopy: 0	1. Tree canopy: 39.29 2. Sub-canopy: 0	1.5
1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 16.4 2. Sub-canopy: 1.4	1. Tree canopy: 56.55 2. Sub-canopy: 15.56	3.5	1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 20.1 2. Sub-canopy: 0	1. Tree canopy: 69.31 2. Sub-canopy: 0	2.5
8	0.8	10	3	8	0.9	11	3
8	2.6	33	1	8	3.4	43	1
34	25.4	75	5	34	29.6	87	5
170	0	0	0	170	0	0	0
1752	60	3	0	1752	265	15	2
0	10		5	0	2		10
			1				5
			1				5
			38.5				52.5
			100				100
			1.16				**1.58**

	Value	Score		Value	Score
	25-200 ha	5		<5ha	0
	low	0		low	0
	low	0		low	0
	none	0		none	0
	not critical	1		not critical	1
	moderate	7		moderate	7
	minor restrictions	10		minor restrictions	10
		23.0			18.0
		56			56
		1.23			**0.96**

Final habitat quality score (weighted)

start quality

	AU4	AU5	AU8	AU1	AU07	AU13	AU14	AU03	Total
Site Condition score (out of 3)	1.17	1.92	1.28	1.64	1.82	1.05	1.16	1.58	1.38
Site Context Score (out of 3)	1.27	1.50	1.52	1.07	1.50	1.45	1.23	0.96	1.51
Species Stocking Rate Score (out of 4)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Habitat Quality score (out of 10)	*4.93*	*5.92*	*5.29*	*5.21*	*5.82*	*5.00*	*4.89*	*5.04*	*5.40*
Offset area of AU (ha)	0	15.4	98.3	0	5.3	0	0	0	119
Size Weighting	0.00	0.13	0.83	0.00	0.04	0.00	0.00	0.00	1.00
Weighted Habitat Quality Score	**0.00**	**0.77**	**4.37**	**0.00**	**0.26**	**0.00**	**0.00**	**0.00**	**5.40**

Schedule 3H: Squatter pigeon, foraging – impact remnant

Assessment Unit - Regional Ecosystem	**AU18 RE 11.7.2 (remnant)**				**AU4 RE 11.5.3 (remnant)**				**AU19 RE 11.5.9 (remnant)**			
Site Reference	**Benchmark**	P11			**Benchmark**	P05			**Benchmark**	P10		
	11.7.2	Raw Data	% Benchmark	Score	**11.5.3**	Raw Data	% Benchmark	Score	**11.5.9**	Raw Data	% Benchmark	Score
Recruitment of woody perennial species in EDL	100	75	75	5	100	50	50	3	100	75	75	5
Native plant species richness - trees	3	6	200	5	6	10	167	5	3	7	233	5
Native plant species richness - shrubs	4	7	175	5	6	14	233	5	6	5	83	2.5
Native plant species richness - grasses	5	5	100	5	6	11	183	5	9	5	56	2.5
Native plant species richness - forbes	5	2	40	2.5	10	3	30	2.5	11	2	18	0
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 15 2. Sub-canopy: 5	1. Tree canopy: 11 2. Sub-canopy: 5	1. Tree canopy: 11.11 2. Sub-canopy: 73.33	5	1. Tree canopy: 16 2. Sub-canopy: 7	1. Tree canopy: 14 2. Sub-canopy: 8	1. Tree canopy: 87.5 2. Sub-canopy: 114.29	5	1. Tree canopy: 17 2. Sub-canopy: 8	1. Tree canopy: 15 2. Sub-canopy: 4	1. Tree canopy: 88.24 2. Sub-canopy: 50	4
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 40 2. Sub-canopy: 4	1. Tree canopy: 44.4 2. Sub-canopy: 7.2	1. Tree canopy: 111 2. Sub-canopy: 180	5	1. Tree canopy: 20 2. Sub-canopy: 3	1. Tree canopy: 29.6 2. Sub-canopy: 3.1	1. Tree canopy: 148 2. Sub-canopy: 103.33	5	1. Tree canopy: 25 2. Sub-canopy: 5	1. Tree canopy: 13.6 2. Sub-canopy: 4	1. Tree canopy: 54.4 2. Sub-canopy: 80	5
Shrub canopy cover	4	36.2	905	3	3	10.6	353	3	10	4.3	43	3
Native grass cover	15	7.8	52	3	19	10.4	55	3	26	7.2	28	1
Organic litter	20	39.6	198	5	20	32.4	162	5	30	14	47	3
Large trees	36	4	11	5	35	18	51	10	20	2	10	5
Coarse woody debris	1214	600	49	2	314	185	59	5	342	205	60	5
Non-native plant cover	0	1		10	0	3		10	0	1		10
Quality and availability of food and foraging habitat				10				5				5
Quality and availability of shelter				10				5				5
Site Condition Score			X	80.5			X	76.5			X	61
MAX Site Condition Score	X	X	X	100	X	X	X	100	X	X	X	100
Site Condition Score - out of 3	**X**	**X**	**X**	**2.42**	**X**	**X**	**X**	**2.30**	**X**	**X**	**X**	**1.83**

Site Context

Squatter Pigeon habitat in Impact Area		**Value**	**Score**			**Value**	**Score**		**Value**	**Score**
Size of patch	10	>200 ha	10			>200 ha	10		>200 ha	10
Connectedness	5	Very high	5			medium	2		very high	5
Context	5	high	4			high	4		high	4
Ecological Corridors	6	none	0			none	0		none	0
Role of site location to species overall population in the state	5	not critical	1			not critical	1		not critical	1
Threats to the species	15	low	15			low	15		low	15
Species mobility capacity	10	minor restrictions	10			minor restrictions	10		minor restrictions	10
Site Context Score			45				42			45
MAX Site Context Score	*56*		56				56			56
Site Context Score - out of 3	**3.00**		**2.41**				**2.25**			**2.41**

Species Stock Rate (SSR)

SSR Score = 2.0 (20 out of 40)

Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0			10		
		No			Yes		
Species usage of the site (habitat type & evidenced usage)	Score	0	5		10	15	
		Not habitat	Dispersal		Foraging	Breeding	
Role/importance of species population on site*	Score	0	5		10		15
	(Total from supplementary table below)	0	5 - 15		20 - 35		40

Key source population for breeding	Score	0	10
		No	Yes
Key source population for dispersal	Score	0	5
		No	Yes
Necessary for maintaining genetic diversity	Score	0	15
		No	Yes
Near the limit of the species range	Score	0	15
		No	Yes

AU2 RE 11.7.2 (remnant)				AU10 RE 11.3.4 (remnant)				AU11 RE 11.4.9 (remnant)				AU12 RE 11.3.25 (remnant)			
Benchmark	P01			**Benchmark**	P06			**Benchmark**	P07			**Benchmark**	P19		
11.7.2	Raw Data	% Benchmark	Score	**11.3.4**	Raw Data	% Benchmark	Score	**11.4.9**	Raw Data	% Benchmark	Score	**11.3.25**	Raw Data	% Benchmark	Score
100	100	100	5	100	25	25	3	**100**	100	100	5	**100**	75	75	5
3	10	333	5	4	15	500	5	**5**	9	180	5	**4**	11	275	5
4	5	125	5	2	3	75	5	**10**	12	120	5	**2**	9	450	5
5	6	120	5	7	3	42.86	2.5	**5**	4	80	2.5	**8**	2	25	2.5
5	4	80	2.5	10	2	20	0	**10**	3	30	2.5	**12**	5	42	2.5
1. Tree canopy: 15 2. Sub-canopy: 5	1. Tree canopy: 9 2. Sub-canopy: 2	1. Tree canopy: 60 2. Sub-canopy: 40	3	1. Tree canopy: 22 2. Sub-canopy: 12	1. Tree canopy: 16 2. Sub-canopy: 6	1. Tree canopy: 72.73 2. Sub-canopy: 50	4	1. Tree canopy: 13 2. Sub-canopy: 8	1. Tree canopy: 11 2. Sub-canopy: 7	1. Tree canopy: 84.62 2. Sub-canopy: 87.5	5	**23**	19	83	5
1. Tree canopy: 40 2. Sub-canopy: 4	1. Tree canopy: 51 2. Sub-canopy: 15.8	1. Tree canopy: 127.5 2. Sub-canopy: 395	4	1. Tree canopy: 30.5 2. Sub-canopy: 18.6	1. Tree canopy: 22 2. Sub-canopy: 12	1. Tree canopy: 179.41 2. Sub-canopy: 372	4	1. Tree canopy: 25 2. Sub-canopy: 10	1. Tree canopy: 17.7 2. Sub-canopy: 8.1	1. Tree canopy: 70.8 2. Sub-canopy: 81	5	**22**	40.9	186	5
4	62	1550	3	1	2.7	270	3	**5**	37.4	748	3	**1**	1.9	190	5
15	14.4	96	5	43	0	0	0	**20**	2.6	13	1	**12**	0.4	3	0
20	42.2	211	3	20	60	300	3	**45**	38	84	5	**15**	31.2	208	3
36	20	56	10	35	18	51	10	**45**	24	53	10	**21**	24	114	15

1214	730	60	5	384	230	18.95	5	**1200**	290	24	2	**375**	230	61	5
0	15		5	0	25		5	**0**	1		10	**0**	35		3
			10				10				1				10
			10				10				1				10
			80.5				69.5				63				81
X	X		100	X	X		100	X	X		100	X	X		100
X	**X**		**2.42**	**X**	**X**		**2.09**	**X**	**X**		**1.89**	**X**	**X**		**2.43**

Value	Score
>200 ha	10
Very high	5
Medium	2
Adjacent to	4
not critical	1
low	15
minor restriction	10
	47
	2.52

Value	Score
>200 ha	10
medium	2
high	4
none	0
not critical	1
low	15
minor restriction	10
	42
	2.25

Value	Score
>200 ha	10
high	4
high	4
none	0
not critical	1
low	15
minor restriction	10
	44
	2.36

Value	Score
>200 ha	10
high	4
medium	2
none	0
not critical	1
low	15
minor restriction	10
	42
	2.25

AU14 RE 11.5.3 (remnant)				AU3 RE 11.5.3 (remnant)				AU08 RE 11.9.7 (remnant)									
Benchmark	P12			**Benchmark**	P02			**Benchmark**	P16			P17			**Ave Raw Data**	**Ave Score**
11.5.3	Raw Data	% Benchmark	Score	**11.5.3**	Raw Data	% Benchmark	Score	**11.9.7**	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score		
100	100	100	5	**100**	100	100	5	100	0	0	0	0	0	0	0	0
6	6	100	5	**6**	4	67	2.5	3	5	167	5	2	67	2.5	3.5	3.75
6	10	167	5	**6**	10	167	5	5	8	160	5	5	100	5	6.5	5
6	6	100	5	**6**	7	117	5	9	4	44	2.5	7	78	2.5	5.5	2.5
10	3	30	2.5	**10**	2	20	0	28	11	39	2.5	13	46	2.5	12	2.5
1. Tree canopy: 16 2. Sub-canopy: 7	1. Tree canopy: 13	1. Tree canopy: 81.25 2. Sub-canopy: 71.43	5	1. Tree canopy: 16 2. Sub-canopy: 7	1. Tree canopy: 13 2. Sub-canopy: 6	1. Tree canopy: 81.25 2. Sub-canopy: 85.71	5	1. Tree canopy: 16 2. Sub-canopy: 9	1. Tree canopy: 12 2. Sub-canopy: 4	1. Tree canopy: 75 2. Sub-canopy: 44.44	4	1. Tree canopy: 10 2. Sub-canopy: 0	1. Tree canopy: 62.5 2. Sub-canopy: 0	1.5	#VALUE!	2.75
1. Tree canopy: 20 2. Sub-canopy: 3	1. Tree canopy: 67.5 2. Sub-canopy: 0	1. Tree canopy: 337.5 2. Sub-canopy: 0	1.5	1. Tree canopy: 20 2. Sub-canopy: 3	1. Tree canopy: 32.7 2. Sub-canopy: 11.4	1. Tree canopy: 163.5 2. Sub-canopy: 380	4	1. Tree canopy: 27 2. Sub-canopy: 12	1. Tree canopy: 5.8 2. Sub-canopy: 5.5	1. Tree canopy: 21.48 2. Sub-canopy: 45.83	2.0	1. Tree canopy: 21.2 2. Sub-canopy: 0	1. Tree canopy: 78.52 2. Sub-canopy: 0	2.5	#VALUE!	2.25
3	9.4	313	3	**3**	8.9	297	3	1	3.2	320	3	0.7	70	5	1.95	4
19	7.2	38	1	**19**	11.2	59	3	26	61	235	5	5.2	20	1	33.1	3
20	67	335	3	**20**	55	275	3	15	18.4	123	5	13.6	91	5	16	5

35	6	17	5	**35**	2	6	5	36	24	67	10	6	17	5	15	7.5
314	495	158	5	**314**	285	91	5	287	690	240	2	70	24	2	380	2
0	2		10	**0**	25		5	0	2		10	5		5	3.5	7.5
			5				10				5			5		5
			5				10				5			5		5
			66				70.5			X	66		X	49.5		57.75
X	X		100	X	X		100	X	X	X	100	X	X	100		100
X	**X**		**1.98**	**X**	**X**		**2.12**	**X**	**X**	**X**	**1.98**	**X**	**X**	**1.49**		**1.73**

Value	Score
>200 ha	10
Very high	5
high	4
none	0
not critical	1
low	15
minor restriction	10
	45
	2.41

Value	Score
5-25 ha	2
low	0
medium	2
adjacent	4
not critical	1
low	15
minor restriction	10
	34
	1.82

Value	Score		Value	Score		Average Score
100-200 ha	7		100-200 ha	7		7
medium	2		medium	2		2
high	4		high	4		4
none	0		none	0		0
not critical	1		not critical	1		1
low	15		low	15		15
minor restrictions	10		minor restrictions	10		10
	39			39		39
	56			56		56
	2.09			**2.09**		**2.09**

Final habitat quality score (weighted)

	AU18	AU4	AU19	AU2	AU10	AU11	AU12	AU14	AU03
Site Condition score (out of 3)	2.42	2.30	1.83	2.42	2.09	1.89	2.43	1.98	2.12
Site Context Score (out of 3)	2.41	2.25	2.41	2.52	2.25	2.36	2.25	2.41	1.82
Species Stocking Rate Score (out of 4)	2	2	2	2	2	2	2	2	2
Habitat Quality score (out of 10)	6.83	6.55	6.24	6.93	6.34	6.25	6.68	6.39	5.94
Impacted area of AU (ha)	0.9	2.5	0.6	0.9	0.1	1.1	0.005	2.5	0.2
Size Weighting	0.04	0.10	0.02	0.04	0.00	0.04	0.00	0.10	0.01
Weighted Habitat Quality Score	**0.25**	**0.66**	**0.15**	**0.25**	**0.03**	**0.28**	**0.00**	**0.65**	**0.05**

	AU8	Balance of Approved Breeding Limit	Total Average
Site Condition score (out of 3)	1.73	2.42	2.15
Site Context Score (out of 3)	2.09	2.52	2.30
Species Stocking Rate Score (out of 4)	2	2	2.00
Habitat Quality score (out of 10)	5.82	6.93	6.45
Impacted area of AU (ha)	7.3	8.6	24.71
Size Weighting	0.30	0.35	1.00
Weighted Habitat Quality Score	**1.72**	**2.41**	**6.45**

Schedule 3I: Squatter pigeon, foraging – offset regrowth

Assessment Unit - Regional Ecosystem	AU04 - RE 11.3.1 young regrowth											
Site Reference	**Benchmark**	B22			B23			B21				
	11.3.1	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	*Average Raw*	*Average Score*
Recruitment of woody perennial species in EDL	**100**	100	100	5	100	100	5	66	66	3	88.7	4.3
Native plant species richness - trees	**3**	1	33	2.5	1	33	2.5	2	67	2.5	1.3	2.5
Native plant species richness - shrubs	**5**	2	40	2.5	2	40	2.5	1	20	0	1.7	1.7
Native plant species richness - grasses	**4**	4	100	5	5	125	5	3	75	2.5	4.0	4.2
Native plant species richness - forbs	**8**	7	88	2.5	9	113	5	5	63	2.5	7.0	3.3
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 3 2. Sub-canopy: 0	1. Tree canopy: 21.43 2. Sub-canopy: 0	0	1. Tree canopy: 2 2. Sub-canopy: 0	1. Tree canopy: 14.29 2. Sub-canopy: 0	0	1. Tree canopy: 1 2. Sub-canopy: 0	1. Tree canopy: 7.14 2. Sub-canopy: 0	0	0.0	0.0
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 3.8 2. Sub-canopy: 0	1. Tree canopy: 13.1 2. Sub-canopy: 0	1	1. Tree canopy: 2.1 2. Sub-canopy: 0	1. Tree canopy: 7.24 2. Sub-canopy: 0	0	1. Tree canopy: 19 2. Sub-canopy: 0	1. Tree canopy: 65.52 2. Sub-canopy: 0	2.5	0.0	1.2
Shrub canopy cover	**8**	0	0	0	0	0	0	6.1	76	5	2.0	1.7
Native grass cover	**8**	21.4	268	5	16.4	205	5	1	13	1	12.9	3.7
Organic litter	**34**	16.2	48	3	35.6	105	5	27.6	81	5	26.5	4.3
Large trees	**170**	0	0	0	0	0	0	0	0	0	0.0	0.0
Coarse woody debris	**1752**	20	1	0	10	1	0	20	1	0	16.7	0.0
Non-native plant cover	**0**	2		10	1		10	1		10	1.3	10.0
Quality and availability of food and foraging habitat				1			1			1		1.0
Quality and availability of shelter				1			1			1		1.0
Site Condition Score				39			42			36		39
MAX Site Condition Score	X			100			100	X		100	X	100
Site Condition Score - out of 3	**X**			**1.16**			**1.26**	**X**		**1.08**	**X**	**1.17**

Site Context

Squatter Pigeon habitat in Impact Area	**Value**	**Value**	**Score**		**Value**	**Score**		**Value**	**Score**		**Average Score**
Size of patch		25-200 ha	5		25-200 ha	5		25-200 ha	5		5.0
Connectedness		low	0		low	0		low	0		0.0
Context		medium	2		low	0		low	0		0.7
Ecological Corridors		none	0		none	0		none	0		0.0
Role of site location to species overall population in the state		not critical	1		not critical	1		not critical	1		1.0
Threats to the species		moderate	7		moderate	7		moderate	7		7.0
Species mobility capacity		minor restrictions	10		minor restrictions	10		minor restrictions	10		10.0
Site Context Score			25			23			23		23.7

MAX Site Context Score	56	56	56	56	
Site Context Score - out of 3	**1.34**	**1.23**	**1.23**	**1.27**	

Species Stock Rate (SSR)

score of 2.0 (20/40)

Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0		10			
		No		Yes			
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		
		Not habitat	Dispersal	Foraging	Breeding		
Role/importance of species population on site*	Score	0	5	10	15		
	(Total from supplementary table below)	0	5 - 15	20 - 35	40		

Key source population for breeding	Score	0	10
		No	Yes
Key source population for dispersal	Score	0	5
		No	Yes
Necessary for maintaining genetic diversity	Score	0	15
		No	Yes
Near the limit of the species range	Score	0	15
		No	Yes

Habitat quality score (weighted)

Start quality

	AU4	AU09	AU02	AU13	AU14	Total
Site Condition score (out of 3)	1.17	1.11	1.46	1.05	1.16	1.14
Site Context Score (out of 3)	1.27	1.29	1.07	1.45	1.23	1.28
Species Stocking Rate Score (out of 4)	2	2	2	2	2	2.00
Habitat Quality score (out of 10)	4.43	4.40	4.53	4.50	4.39	4.43
Offset area of AU (ha)	27.5	20.6	0	0	0	48.1
Size Weighting	0.57	0.43	0.00	0.00	0.00	1.00
Weighted Habitat Quality Score	**2.53**	**1.88**	**0.00**	**0.00**	**0.00**	**4.42**

AU09 - RE 11.4.2 young regrowth									AU02 - RE 11.4.9 (regrowth)								AU13 - RE 11.3.3 (young regrowth)				AU14 - RE 11.3.1 (young regrowth)			
Benchmark	B19			B20					**Benchmark**	B11			B12				**Benchmark**	B16			**Benchmark**	B15		
11.4.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	*Average Raw*	*Average Score*	**RE 11.4.9**	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	*Average Score*	**RE 11.3.3**	Raw Data	% Benchmark	Score	**RE 11.3.1**	Raw Data	% Benchmark	Score
100	66	66	3	75	75	5	70.5	4	100	100	100	5	100	100	5	5	100	100	100	5	100	100	100	5

4	4	100	5	3	75	2.5	3.5	3.75	5	4	80	2.5	2	40	2.5	2.5	3	2	67	2.5	3	2	67	2.5
5	9	180	5	10	200	5	9.5	5	10	9	90	5	5	50	2.5	3.75	5	3	60	2.5	5	4	80	2.5
8	4	50	2.5	3	38	2.5	3.5	2.5	5	2	40	2.5	4	80	2.5	2.5	12	4	33	2.5	4	4	100	5
7	1	14	0	4	57	2.5	2.5	1.25	10	3	30	2.5	2	20	0	1.25	15	6	40	2.5	8	6	75	2.5
1. Tree canopy: 20 2. Sub-canopy: 8	1. Tree canopy: 2.5 2. Sub-canopy: 1.5	1. Tree canopy: 12.5 2. Sub-canopy: 18.75	0	1. Tree canopy: 3 2. Sub-canopy: 2.5	1. Tree canopy: 15 2. Sub-canopy: 31.25	1.5	0	0.75	1. Tree canopy: 13 2. Sub-canopy: 8	1. Tree canopy: 5 2. Sub-canopy: 1	1. Tree canopy: 38.46 2. Sub-canopy: 12.5	1.5	1. Tree canopy: 5 2. Sub-canopy: 4.5	1. Tree canopy: 38.46 2. Sub-canopy: 56.25	3	2.25	1. Tree canopy: 18 2. Sub-canopy: 10	1. Tree canopy: 2.5 2. Sub-canopy: 4	1. Tree canopy: 13.89 2. Sub-canopy: 40	1.5	1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 1.5 2. Sub-canopy: 2	1. Tree canopy: 10.71 2. Sub-canopy: 50	1.5
1. Tree canopy: 25 2. Sub-canopy: 5	1. Tree canopy: 2 2. Sub-canopy: 3.6	1. Tree canopy: 8 2. Sub-canopy: 72	2.5	1. Tree canopy: 3 2. Sub-canopy: 0.3	1. Tree canopy: 12 2. Sub-canopy: 6	1	0	1.75	1. Tree canopy: 25 2. Sub-canopy: 10	1. Tree canopy: 19.7 2. Sub-canopy: 3.8	1. Tree canopy: 78.8 2. Sub-canopy: 38	3.5	1. Tree canopy: 21.8 2. Sub-canopy: 2.2	1. Tree canopy: 87.2 2. Sub-canopy: 22	3.5	3.5	1. Tree canopy: 28 2. Sub-canopy: 5	1. Tree canopy: 0 2. Sub-canopy: 2.9	1. Tree canopy: 0 2. Sub-canopy: 58	2.5	1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 16.4 2. Sub-canopy: 1.4	1. Tree canopy: 56.55 2. Sub-canopy: 15.56	3.5
13	3.6	28	3	1.1	8	0	2.35	1.5	5	13.7	274	3	16.3	326	3	3	4	1.1	28	0	8	0.8	10	3
16	6.2	39	1	4.2	26	1	5.2	1	20	0.2	1	0	1.6	8	0	0	45	18.6	41	1	8	2.6	33	1
30	27.8	93	5	37.2	124	5	32.5	5	45	38.6	86	5	15.8	35	3	4	30	10.6	35	3	34	25.4	75	5
18	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	0	10	0	0	0	170	0	0	0
109	20	18	2	60	55	5	40	3.5	1200	45	4	0	140	12	2	1	285	0	0	0	1752	60	3	0
0	20		5	25		5	22.5	5	0	2		10	1		10	10	0	1		10	0	10		5
			1			1		1				5			5	5				1				1
			1			1		1				5			5	5				1				1
			36		38		37					50.5			47	48.75				35				38.5
X	X		100		100	X	100					100			100	100				100				100
X	**X**		**1.08**		**1.14**	**X**	**1.11**					**1.52**			**1.41**	**1.46**				**1.05**				**1.16**

Value	Score		Value	Score		Average Score		Value	Score		Value	Score	Average Score		Value	Score		Value	Score
5-25 ha	2		5-25 ha	2		2		5-25 ha	2		5-25 ha	2	2		25-200 ha	5		25-200 ha	5
medium	2		medium	2		2		low	0		low	0	0		medium	2		low	0
medium	2		medium	2		2		low	0		low	0	0		medium	2		low	0
none	0		none	0		0		none	0		none	0	0		none	0		none	0
not critical	1		not critical	1		1		not critical	1		not critical	1	1		not critical	1		not critical	1
moderate	7		moderate	7		7		moderate	7		moderate	7	7		moderate	7		moderate	7
minor restrictions	10		minor restrictions	10		10		minor restrictions	10		minor restrictions	10	10		minor restrictions	10		minor restrictions	10
	24.0			24.0		24.0			20.0			20.0	20.0			27.0			23.0
	56			56		56			56			56	56			56			56
	1.29			**1.29**		**1.29**			**1.07**			**1.07**	**1.07**			**1.45**			**1.23**

Schedule 3J: Squatter pigeon, foraging – impact regrowth

Assessment Unit - Regional Ecosystem		AU06 RE 11.4.9 (regrowth)			
Site Reference	**Benchmark**	P03			
	11.4.9	Raw Data	% Benchmark	Score	
Recruitment of woody perennial species in EDL	100	100	100	5	
Native plant species richness - trees	5	5	100	5	
Native plant species richness - shrubs	10	9	90	5	
Native plant species richness - grasses	5	5	100	5	
Native plant species richness - forbes	10	4	40	2.5	
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 13 2. Sub-canopy: 8	1. Tree canopy: 8 2. Sub-canopy: 5	1. Tree canopy: 61.54 2. Sub-canopy: 62.5	3	
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 25 2. Sub-canopy: 10	1. Tree canopy: 0 2. Sub-canopy: 8.7	1. Tree canopy: 0 2. Sub-canopy: 87	2.5	
Shrub canopy cover	5	41	820	3	
Native grass cover	20	1.6	8	0	
Organic litter	45	31.4	70	5	
Large trees	45	8	18	5	
Coarse woody debris	1200	205	17	2	
Non-native plant cover	0	25		5	
Quality and availability of food and foraging habitat				1	
Quality and availability of shelter				1	
Site Condition Score				50	
MAX Site Condition Score	*X*	*X*		*100*	
Site Condition Score - out of 3	**X**	**X**		**1.50**	

Site Context

Squatter Pigeon habitat in Impact Area	**Value**	**Score**
Size of patch	<5 ha	0
Connectedness	low	0
Context	medium	2
Ecological Corridors	none	0
Role of site location to species overall population in the state	not critical	1
Threats to the species	moderate	15
Species mobility capacity	minor restrictions	10
Site Context Score		
MAX Site Context Score		28
Site Context Score - out of 3		**1.50**

Species Stock Rate (SSR)

Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0		10	
		No		Yes	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15
		Not habitat	Dispersal	Foraging	Breeding
Role/importance of species population on site*	Score	0	5	10	15
	(Total from supplementary table below)	0	5 - 15	20 - 35	40

Key source population for breeding	Score	0	10
		No	Yes
Key source population for dispersal	Score	0	5
		No	Yes
Necessary for maintaining genetic diversity	Score	0	15
		No	Yes
Near the limit of the species range	Score	0	15
		No	Yes

Final habitat quality score (weighted)

	AU06
Site Condition score (out of 3)	1.50
Site Context Score (out of 3)	1.50
Species Stocking Rate Score (out of 4)	2
Habitat Quality score (out of 10)	*5.00*
Impacted area of AU (ha)	1.3
Size Weighting	1.00
Weighted Habitat Quality Score	**5.00**

Schedule 3K: Squatter pigeon, foraging – offset regrowth

Assessment Unit - Regional Ecosystem	AU04 - RE 11.3.1 young regrowth											
Site Reference	**Benchmark**	B22			B23			B21			*Average Raw*	*Average Score*
	11.3.1	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score		
Recruitment of woody perennial species in EDL	**100**	100	100	5	100	100	5	66	66	3	88.7	4.3
Native plant species richness - trees	**3**	1	33	2.5	1	33	2.5	2	67	2.5	1.3	2.5
Native plant species richness - shrubs	**5**	2	40	2.5	2	40	2.5	1	20	0	1.7	1.7
Native plant species richness - grasses	**4**	4	100	5	5	125	5	3	75	2.5	4.0	4.2
Native plant species richness - forbs	**8**	7	88	2.5	9	113	5	5	63	2.5	7.0	3.3
Tree canopy height (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 3 2. Sub-canopy: 0	1. Tree canopy: 21.43 2. Sub-canopy: 0	0	1. Tree canopy: 2 2. Sub-canopy: 0	1. Tree canopy: 14.29 2. Sub-canopy: 0	0	1. Tree canopy: 1 2. Sub-canopy: 0	1. Tree canopy: 7.14 2. Sub-canopy: 0	0	0.0	0.0
Tree canopy cover (average of emergent, canopy and sub-canopy layers)	1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 3.8 2. Sub-canopy: 0	1. Tree canopy: 13.1 2. Sub-canopy: 0	1	1. Tree canopy: 2.1 2. Sub-canopy: 0	1. Tree canopy: 7.24 2. Sub-canopy: 0	0	1. Tree canopy: 19 2. Sub-canopy: 0	1. Tree canopy: 65.52 2. Sub-canopy: 0	2.5	0.0	1.2
Shrub canopy cover	**8**	0	0	0	0	0	0	6.1	76	5	2.0	1.7
Native grass cover	**8**	21.4	268	5	16.4	205	5	1	13	1	12.9	3.7
Organic litter	**34**	16.2	48	3	35.6	105	5	27.6	81	5	26.5	4.3
Large trees	**170**	0	0	0	0	0	0	0	0	0	0.0	0.0
Coarse woody debris	**1752**	20	1	0	10	1	0	20	1	0	16.7	0.0
Non-native plant cover	**0**	2		10	1		10	1		10	1.3	10.0
Quality and availability of food and foraging habitat				1			1			1		1.0
Quality and availability of shelter				1			1			1		1.0
Site Condition Score				39			42			36		39
MAX Site Condition Score	X			100			100	X		100	X	100
Site Condition Score - out of 3	**X**			**1.16**			**1.26**	**X**		**1.08**	**X**	**1.17**

Site Context

Squatter Pigeon habitat in Impact Area	**Value**	**Value**	**Score**		**Value**	**Score**		**Value**	**Score**		**Average Score**
Size of patch		25-200 ha	5		25-200 ha	5		25-200 ha	5		5.0
Connectedness		low	0		low	0		low	0		0.0
Context		medium	2		low	0		low	0		0.7
Ecological Corridors		none	0		none	0		none	0		0.0
Role of site location to species overall population in the state		not critical	1		not critical	1		not critical	1		1.0
Threats to the species		moderate	7		moderate	7		moderate	7		7.0
Species mobility capacity		minor restrictions	10		minor restrictions	10		minor restrictions	10		10.0
Site Context Score			25			23			23		23.7

MAX Site Context Score	56	56	56	56	
Site Context Score - out of 3	**1.34**	**1.23**	**1.23**	**1.27**	

Species Stock Rate (SSR)

score of 2.0 (20/40)

Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0		10			
		No		Yes			
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15		
		Not habitat	Dispersal	Foraging	Breeding		
Role/importance of species population on site*	Score	0	5	10	15		
	(Total from supplementary table below)	0	5 - 15	20 - 35	40		

Key source population for breeding	Score	0	10
		No	Yes
Key source population for dispersal	Score	0	5
		No	Yes
Necessary for maintaining genetic diversity	Score	0	15
		No	Yes
Near the limit of the species range	Score	0	15
		No	Yes

Habitat quality score (weighted)

Start quality

	AU4	AU09	AU02	AU13	AU14	Total
Site Condition score (out of 3)	1.17	1.11	1.46	1.05	1.16	1.19
Site Context Score (out of 3)	1.27	1.29	1.07	1.45	1.23	1.26
Species Stocking Rate Score (out of 4)	2	2	2	2	2	2.00
Habitat Quality score (out of 10)	4.43	4.40	4.53	4.50	4.39	4.45
Offset area of AU (ha)	2.9	0	0	0	0	2.9
Size Weighting	1.00	0.00	0.00	0.00	0.00	1.00
Weighted Habitat Quality Score	**4.43**	**0.00**	**0.00**	**0.00**	**0.00**	**4.45**

AU09 - RE 11.4.2 young regrowth									AU02 - RE 11.4.9 (regrowth)								AU13 - RE 11.3.3 (young regrowth)				AU14 - RE 11.3.1 (young regrowth)			
Benchmark	B19			B20					**Benchmark**	B11			B12				**Benchmark**	B16			**Benchmark**	B15		
11.4.2	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	*Average Raw*	*Average Score*	**RE 11.4.9**	Raw Data	% Benchmark	Score	Raw Data	% Benchmark	Score	*Average Score*	**RE 11.3.3**	Raw Data	% Benchmark	Score	**RE 11.3.1**	Raw Data	% Benchmark	Score
100	66	66	3	75	75	5	70.5	4	100	100	100	5	100	100	5	5	100	100	100	5	100	100	100	5
4	4	100	5	3	75	2.5	3.5	3.75	5	4	80	2.5	2	40	2.5	2.5	3	2	67	2.5	3	2	67	2.5

5	9	180	5	10	200	5	9.5	5	10	9	90	5	5	50	2.5	3.75	5	3	60	2.5	5	4	80	2.5
8	4	50	2.5	3	38	2.5	3.5	2.5	5	2	40	2.5	4	80	2.5	2.5	12	4	33	2.5	4	4	100	5
7	1	14	0	4	57	2.5	2.5	1.25	10	3	30	2.5	2	20	0	1.25	15	6	40	2.5	8	6	75	2.5
1. Tree canopy: 20 2. Sub-canopy: 8	1. Tree canopy: 2.5 2. Sub-canopy: 1.5	1. Tree canopy: 12.5 2. Sub-canopy: 18.75	0	1. Tree canopy: 3 2. Sub-canopy: 2.5	1. Tree canopy: 15 2. Sub-canopy: 31.25	1.5	0	0.75	1. Tree canopy: 13 2. Sub-canopy: 8	1. Tree canopy: 5 2. Sub-canopy: 1	1. Tree canopy: 38.46 2. Sub-canopy: 12.5	1.5	1. Tree canopy: 5 2. Sub-canopy: 4.5	1. Tree canopy: 38.46 2. Sub-canopy: 56.25	3	2.25	1. Tree canopy: 18 2. Sub-canopy: 10	1. Tree canopy: 2.5 2. Sub-canopy: 4	1. Tree canopy: 13.89 2. Sub-canopy: 40	1.5	1. Tree canopy: 14 2. Sub-canopy: 4	1. Tree canopy: 1.5 2. Sub-canopy: 2	1. Tree canopy: 10.71 2. Sub-canopy: 50	1.5
1. Tree canopy: 25 2. Sub-canopy: 5	1. Tree canopy: 2 2. Sub-canopy: 3.6	1. Tree canopy: 8 2. Sub-canopy: 72	2.5	1. Tree canopy: 3 2. Sub-canopy: 0.3	1. Tree canopy: 12 2. Sub-canopy: 6	1	0	1.75	1. Tree canopy: 25 2. Sub-canopy: 10	1. Tree canopy: 19.7 2. Sub-canopy: 3.8	1. Tree canopy: 78.8 2. Sub-canopy: 38	3.5	1. Tree canopy: 21.8 2. Sub-canopy: 2.2	1. Tree canopy: 87.2 2. Sub-canopy: 22	3.5	3.5	1. Tree canopy: 28 2. Sub-canopy: 5	1. Tree canopy: 0 2. Sub-canopy: 2.9	1. Tree canopy: 0 2. Sub-canopy: 58	2.5	1. Tree canopy: 29 2. Sub-canopy: 9	1. Tree canopy: 16.4 2. Sub-canopy: 1.4	1. Tree canopy: 56.55 2. Sub-canopy: 15.56	3.5
13	3.6	28	3	1.1	8	0	2.35	1.5	5	13.7	274	3	16.3	326	3	3	4	1.1	28	0	8	0.8	10	3
16	6.2	39	1	4.2	26	1	5.2	1	20	0.2	1	0	1.6	8	0	0	45	18.6	41	1	8	2.6	33	1
30	27.8	93	5	37.2	124	5	32.5	5	45	38.6	86	5	15.8	35	3	4	30	10.6	35	3	34	25.4	75	5
18	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	0	10	0	0	0	170	0	0	0
109	20	18	2	60	55	5	40	3.5	1200	45	4	0	140	12	2	1	285	0	0	0	1752	60	3	0
0	20		5	25		5	22.5	5	0	2		10	1		10	10	0	1		10	0	10		5
			1			1		1				5			5	5				1				1
			1			1		1				5			5	5				1				1
			36		38		37					50.5			47	48.75				35				38.5
X	X		100		100	X	100					100			100	100				100				100
X	**X**		**1.08**		**1.14**	**X**	**1.11**					**1.52**			**1.41**	**1.46**				**1.05**				**1.16**

Value	**Score**		**Value**	**Score**		**Average Score**		**Value**	**Score**		**Value**	**Score**	**Average Score**		**Value**	**Score**		**Value**	**Score**
5-25 ha	2		5-25 ha	2		2		5-25 ha	2		5-25 ha	2	2		25-200 ha	5		25-200 ha	5
medium	2		medium	2		2		low	0		low	0	0		medium	2		low	0
medium	2		medium	2		2		low	0		low	0	0		medium	2		low	0
none	0		none	0		0		none	0		none	0	0		none	0		none	0
not critical	1		not critical	1		1		not critical	1		not critical	1	1		not critical	1		not critical	1
moderate	7		moderate	7		7		moderate	7		moderate	7	7		moderate	7		moderate	7
minor restrictions	10		minor restrictions	10		10		minor restrictions	10		minor restrictions	10	10		minor restrictions	10		minor restrictions	10
	24.0			24.0		24.0			20.0			20.0	20.0			27.0			23.0
	56			56		56			56			56	56			56			56
	1.29			**1.29**		**1.29**			**1.07**			**1.07**	**1.07**			**1.45**			**1.23**

Appendix A: BioCondition Assessment Report

Please see file supplied separately

Attachment 1: Letter from landholders re clearing history and intent

Mr Peter Hansen

Hansen Bailey

Level 15, 215 Adelaide Street,

Brisbane, Qld 4000

2 April 2019

"Brigalow" property – land clearing history and future intent to continue clearing

Dear Brett

Please find below a timeline of historical clearing and the management activities that have been put on hold whilst we have been negotiating the offsets for the Ironbark Project with Fitzroy (CQ) Pty Ltd.

The freehold property "Brigalow" was purchased in January 2004 by Stewart Geoffrey & Kerry Anne Wallace as a cattle grazing enterprise.

Before our purchase, all of the river country between the Isaac River and the anabranch (predominantly Coolibah – was rung out and harvested for timber in the 1950's. This is supported by the historical photos and is very clear between the 1953 and 1956 photos.

The brigalow and coolabah areas higher up (to the east of the anabranch) were initially pulled and burnet in the 1960's – see the photo of 1965.

Since we have owned the property, we have undertaken the following growth control actions:

- 17/01/2005 Regrowth Pulling Box, Windmill, Sucker Paddocks
- 11/07/2005 Regrowth Pulling Box, Windmill Paddocks
- 29/11/2005 Graslan Steer Paddock
- 23/12/2005 Regrowth Pulling Sucker, North River Paddock
- 02/03/2007 Regrowth Pulling Box Paddock
- 23/04/2009 Regrowth Pulling Dozer
- 27/08/2009 Graslan 12 TON North River, Sucker Paddocks
- 19/12/2014 Regrowth Pulling Brigalow

The regrowth was usually pulled circa October-November when the soil has some moisture so that the suckers are pulled out by the roots. This was then burnt 12 months later in December to get a hot burn to get rid of the timber on the ground as it is otherwise dangerous for cattle and horses to cross and is a high fire danger. Brigalow burns very hot.

This hot burn was also undertaken in the remnant areas at the same time to clear out undergrowth and timber on the ground. The Eucalypt based country (Poplar Box and Coolibah) has cane grass especially in the channels – this is burnt in December each 2-3 years to keep the undergrowth and logs/timber on the ground to a minimum.

Future Treatment of regrowth and remnant areas if the offset does not proceed

The higher country will be treated with Graslan as the residual effect is evident for circa 15 years. The lower country which is where the offset area for Poitrel and MRA2C is, will be pulled with 2 bulldozers and a chain and then burnt in the following December – ie a continuation of the current management cycle.

This is scheduled to occur ASAP if the offset does not proceed as it has been held up for the last 12 months as the offset areas have been under investigation and discussion.

This activity is reflected in the properties business plan and management cycle to keep the grazing capacity of the country as high as possible which is the core business of the property.

We hope that this clarifies the history and ongoing management cycle for you.

Please don't hesitate to contact us should there be any points requiring clarification.

Yours sincerely,

Stewart Wallace Kerry Wallace