



Olive Downs Project – Baseline Offset Survey Investigation Report

July 2018

Olive Downs Coking Coal Project – Baseline Offset Survey Investigation Report

27 July 2018

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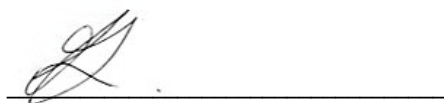
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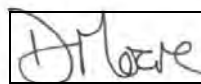
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EXECUTIVE SUMMARY

DPM Envirosciences Pty Ltd was engaged by Pembroke Olive Downs Pty Ltd to undertake terrestrial flora and fauna surveys and to prepare a baseline ecology assessment for the proposed Olive Downs Coking Coal Project (herein referred to as the Project) offsets site (herein referred to as the Study area). The Study area is made up of three different landholdings: in the north is Twenty-Mile (approximately 9,450 hectares [ha]), in the south-east is Iffley (approximately 18,795 ha) and in the west is Deverill (approximately 5,950 ha). The total combined area is about approximately 34,195 ha. There is an existing mining exploration lease (MDL 3023) on an area of approximately 3,000 ha in the south of Twenty Mile. This area has been excluded from the investigations and analysis of vegetation communities and habitat. The available area for offsets is therefore 31,195 ha.

The Project is a proposed coal mine and associated infrastructure within the Bowen Basin, located approximately 40 kilometres south-east of Moranbah, Queensland. In a regional context, the Project is located within the Brigalow Belt North Bioregion. The Project spans across two sub-regions, with the northern extent (including the electricity transmission line [ETL] corridor, rail loop and spur, and water pipeline) falling within the Northern Bowen Basin subregion, and the mine site falling within the Isaac – Comet Downs subregion. In a local context, the Project area is located within the Bowen Basin mining area where, in parallel with agricultural activities, open cut (and underground) coal mining is a key land use.

The Project would require the clearance of various patches of woodland / forest (totalling approximately 5,661.5 ha) occurring in four stages over the 79 years of construction and operation. All of the native vegetation communities / Regional Ecosystems (REs) to be cleared occur more extensively in the surrounding landscapes and subregions. The Project will result in the removal of Matters of National Environmental Significance (MNES) and Matters of State Environmental Significance (MSES) requiring offset under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and Queensland *Environmental Offset Act 2014*. The native vegetation types that would be cleared by the Project include:

- approximately 4,805 ha of eucalypt dry woodlands on inland depositional plains;
- approximately 88.5 ha of eucalypt open forests to woodlands on floodplains;
- approximately 570 ha of eucalypt woodlands to open forests;
- approximately 78 ha of acacia dominated open forests, woodlands and shrublands; and
- approximately 120 ha of wetlands (swamps and lakes).

The scope of this assessment was to verify RE mapping for the Study area; identify any conservation significant species under the Queensland *Nature Conservation Act 1992* (NC Act) and the EPBC Act; and to identify and describe any MSES and MNES.

Terrestrial flora survey techniques included ground-truthing REs using quaternary level assessment in accordance with the Queensland Herbarium vegetation survey methods described in Neldner et al. (2017); terrestrial habitat quality assessment in accordance with the *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017a); identification of Threatened Ecological Communities (TECs); and random meander searches for species of conservation significance.

Terrestrial fauna surveys were undertaken in accordance with the relevant State and Commonwealth survey guidelines. Survey methods included spotlighting, diurnal bird surveys, active searches, searches for scats and other signs, and habitat assessments. Targeted searches for threatened fauna species listed under NC Act and EPBC Act were also conducted.

A total of 23 individual REs were ground-truthed within the Study area. Of these, six have a conservation status of 'Endangered' (RE 11.3.1, RE 11.3.1b, RE 11.4.8, RE 11.4.9, RE 11.5.17 and RE 11.9.1) and three have a conservation status of 'Of Concern' (RE 11.3.2, RE 11.3.36 and RE 11.10.8) under the Queensland *Vegetation Management Act 1999*.

TECs recorded within the Study area comprised the Brigalow TEC, represented by two patches of RE 11.3.1, three patches of RE 11.4.8 and six patches of RE 11.4.9 (totalling approximately 91.5 ha).

Four EVNT fauna species were recorded from the Study area, confirming the presence of habitat for:

- koala (*Phascolarctos cinereus*) – Vulnerable (EPBC Act and NC Act);
- greater glider (*Petauroides volans*) – Vulnerable (EPBC Act and NC Act);
- ornamental snake (*Denisonia maculata*) – Vulnerable (EPBC Act and NC Act); and
- squatter pigeon – southern subspecies (*Geophaps scripta scripta*) – Vulnerable (EPBC Act and NC Act).

No Australian painted snipe (*Rostratula australis*) (Endangered [EPBC Act]; Vulnerable [NC Act]) were detected, although transient individuals are likely to utilise the proposed offset area on occasion.

MSES vegetation communities identified within the Study area include the following Regulated Vegetation:

- Endangered RE (RE 11.3.1, RE 11.3.1b, RE 11.4.8, RE 11.4.9, RE 11.5.17 and 11.9.1);
- Of Concern RE (RE 11.3.2, RE 11.3.36 and RE 11.10.8);
- REs that intersect a wetland on the vegetation management wetlands map (RE 11.3.27); and
- REs within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map.

The Endangered (NC Act) flora species *Solanum elaeagnifolium* was recorded in the Study area, confirming the presence of both known and potential habitat for this species (although none is required for offsets for the Olive Downs Coking Coal Project).

Areas of regrowth are available in the Study area to offset impacts on connectivity values in the Olive Downs Coking Coal Project area. More advanced regrowth, identified as being most suitable for Stage One of the Olive Downs Coking Coal Project, is located in the north-west of Twenty-Mile and is largely woodland habitat dominated by RE 11.5.3.

A number of palustrine wetlands, including RE 11.3.27f and RE 11.5.17, have been identified and assessed within the Study area. Four of the wetlands are mapped as High Ecological Significance (HES) wetlands. There is opportunity to improve the condition of some of these wetlands through stock exclusion and weed and pest animal management to provide offsets for the HES wetland impacted by Stage One of the Olive Downs Coking Coal Project.

This report has focussed on the ecological values present within the Study area that may have value as offsets for the Olive Downs Coking Coal Project.

Further investigation and field work will be required to assess terrestrial habitat quality of remaining areas of the Study area for subsequent stages of the Project.

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Acronyms

Acronym	Description
BVG	Broad Vegetation Group
CE	Critically Endangered (threatened flora species status)
DERM	The former Queensland Department of Environment and Resource Management
DES	Queensland Department of Environment and Science
DNRM	The Queensland Department of Natural Resources and Mines
DotE	The former Commonwealth Department of the Environment
DSEWPC	The former Australian Government Department of Sustainability, Environment, Water, Population and Communities
DSITI	Queensland Department of Science, Information Technology and Innovation
DSITIA	The former Queensland Department of Science, Information Technology, Innovation and the Arts
DSDIP	The former Queensland Department of State Development, Infrastructure and Planning
E	Endangered (threatened flora species status)
EA	Environmental Authority
EH	Essential Habitat
EIS	Environmental Impact Statement
EO Act	Queensland <i>Environmental Offsets Act 2014</i>
EO Regulation	Queensland Environmental Offsets Regulation 2014
EP Act	Queensland <i>Environmental Protection Act 1994</i>
EP Regulation	Queensland Environmental Protection Regulation 2008
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERE	Endangered Regional Ecosystem
ESA	Environmentally Sensitive Area
ESD	Ecologically Sustainable Development
ETL	Electricity Transmission Line
EVNT	Endangered, Vulnerable or Near Threatened (threatened flora species)
HES	High Ecological Significance
HRA	High Risk Area
LC	Least Concern species listed under the NC Act
LGA	Local Government Area
MLA	Mining Lease Area
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NC Act	Queensland <i>Nature Conservation Act 1992</i>
NC Regulation	Nature Conservation (Wildlife) Regulation 2006
NT	Near Threatened (flora species status)
RE	Regional Ecosystem
SEVT	Semi-evergreen Vine Thicket
SLC	Special Least Concern
SPP	State Planning Policy
TEC	Threatened Ecological Community
V	Vulnerable (threatened flora species status)

Acronym	Description
VM Act	<i>Queensland Vegetation Management Act 1999</i>
WONS	Weeds of National Significance
WPA	Wetland Protection Area

Definitions

Term	Description
Biosecurity matter	A living thing, other than a human or part of a human; or a pathogenic agent that can cause disease in a living thing, other than a human, or a pathogenic agent that can cause disease in a human, by the transmission of a pathogenic agent from an animal to a human; or a disease; or a contaminant.
Olive Downs Coking Coal Project area	This area is defined by the area of impact of the mine site, mine infrastructure, access road, water pipeline, electricity transmission line and rail spur. It is a total area of approximately 16,300 ha that is contained within the larger Study area. It reflects the area of disturbance for the Project.
Restricted matter	Listed in Schedule 2 of the Queensland <i>Biosecurity Act 2014</i> , and refers to biosecurity matters that are currently found in Queensland and that are known to have a significant impact on human health, social amenity, the economy or the environment.
Study area	This area encompasses the area of land that was investigated for the ecological assessments. It includes the entire Twenty-Mile (excluding the MDL), Deverill and Iffley properties, and comprises an area of approximately 31,195 ha.
Stage One: Olive Downs Coking Coal Project	Once approved, it is intended that the Project is constructed in two stages. The initial Stage One would encompass part of the Olive Downs South domain and the infrastructure corridors. It is approximately 2,860 ha and would include the following activities: ▪ development of infrastructure areas within the Olive Downs South domain; ▪ construction of the infrastructure corridors; ▪ commencement and progression of the open cut pit; and ▪ commencement and progression of waste emplacement. Stage One would support the necessary coal production at the mine for a period of three to four years before any further stages are commenced.

1 INTRODUCTION

Pembroke Resources is preparing an Environmental Impact Statement (EIS) for the development of an open cut mining complex within the Olive Downs South and Willunga domains (the Olive Downs Coking Coal Project) for a mine plan supporting a run-of-mine coal production rate of up to 20 million tonnes per annum (Mtpa), and construction of associated infrastructure (i.e. Isaac River haul road crossings, mine infrastructure areas, coal handling processing plant, electricity transmission line, rail spur and water management infrastructure).

Pembroke Resources proposes to seek a staged offset for the Project, and has recently purchased the Iffley, Deverill and Twenty-Mile properties located near the proposed Project site, with the intent of satisfying offsets for Stage One of the Project, particularly physical offsets for Matters of National Environmental Significance (MNES).

1.1 Purpose

The aim of the report is to detail the offset potential of the Study area in relation to the Olive Downs Coking Coal Project, particularly Stage One. In accordance with the Olive Downs Coking Coal Project flora and fauna technical reports (DPM Envirosciences 2018a and 2018b), it is anticipated that an offset may be required for the following MNES impacted during Stage One:

- Brigalow (*Acacia harpophylla* dominant and co-dominant) Threatened Ecological Community (Brigalow TEC);
- Ornamental Snake (*Denisonia maculata*);
- Australian Painted Snipe (*Rostratula australis*);
- Squatter Pigeon – southern subspecies (*Geophaps scripta scripta*);
- Koala (*Phascolarctos cinereus*); and
- Greater Glider (*Petauroides volans*).

Matters of State Environmental Significance (MSES) not considered to be the same or substantially the same activity also need to be considered, including:

- Regulated Vegetation (including REs associated with wetlands and watercourses);
- Connectivity; and
- Wetlands and Watercourses.

This report aims to describe the existing ecological values of the proposed offset area made up of the Twenty-Mile, Deverill and Iffley properties, with particular reference to those MNES and MSES values listed above.

1.2 Scope of work

The scope of work for this Baseline Offset Survey Investigation Report includes the following tasks:

- ground truth Regional Ecosystems (REs) in the Study area;
- provide written descriptions of the baseline health and quality of each RE;
- characterise vegetation (remnant and non-remnant) across the Study area;
- identify and map the pre-clearing REs of the potential offset properties (considering the Government pre-clear layer);
- map TECs listed under the *Environment Protection and Biodiversity Act 1999* (EPBC Act) (particularly Brigalow TEC) across the Study area;
- undertake targeted surveys for threatened species relevant to the Project (e.g. Ornamental Snake, Australian Painted Snipe, Squatter Pigeon (southern), Koala and Greater Glider) across the Study area;
- map potential habitat for potentially occurring threatened species relevant to the Project (e.g. Ornamental Snake, Australian Painted Snipe, Squatter Pigeon (southern), Koala and Greater Glider) across the Study area; and
- collect data in accordance with the *Guide to Determining Terrestrial Habitat Quality* (Department of Environment and Heritage Protection [DEHP] 2017) in potential offset areas relevant to Stage One of the Olive Downs Coking Coal Project.

2 STUDY AREA

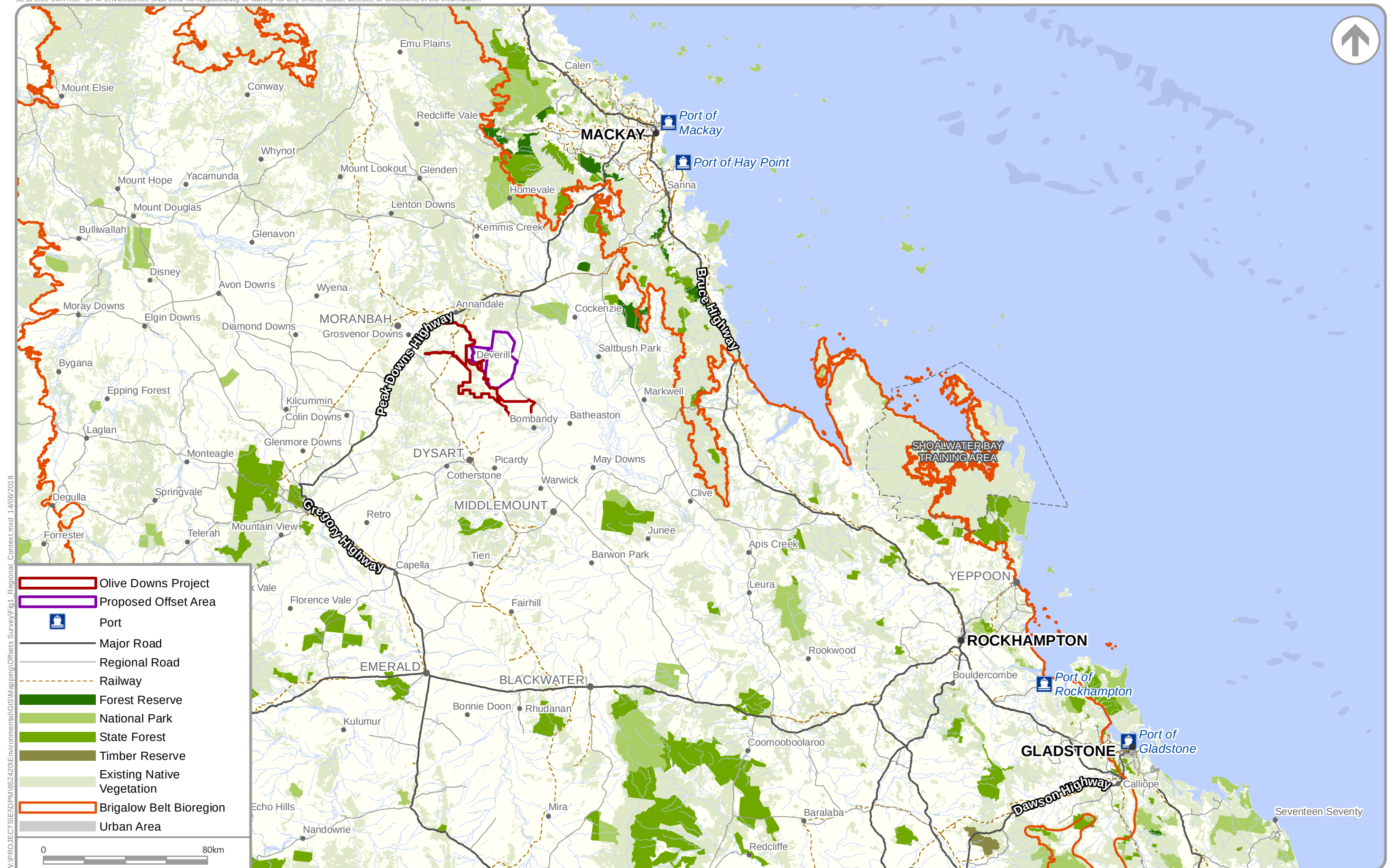
The Study area is made up of three different land holdings: in the north is Twenty Mile (approximately 9,450 hectares [ha]), in the south-east is Iffley (approximately 18,795 ha) and in the west is Deverill (approximately 5,950 ha). The total combined area is about 34,195 ha. There is an existing mining exploration lease (MDL 3023) on an area of approximately 3,000 ha in the south of Twenty Mile. This area has been excluded from the investigations and analysis of vegetation communities and habitat. The available area for offsets is therefore 31,195 ha. The context of the Study area on a regional scale is shown in Figure 1.

The Study area is located centrally within the Isaac Regional Council Local Government Area. It is located within the Bowen Basin where open cut coal mining is a key land use, and a number of existing and approved coal mines, including Moorvale, Daunia, Poitrel, Millennium, Eagle Downs, Peak Downs, Saraji and Lake Vermont surround the Study area. Coal and petroleum (e.g. coal seam gas) exploration and extraction activities have been conducted within the surrounds for decades, and continue.

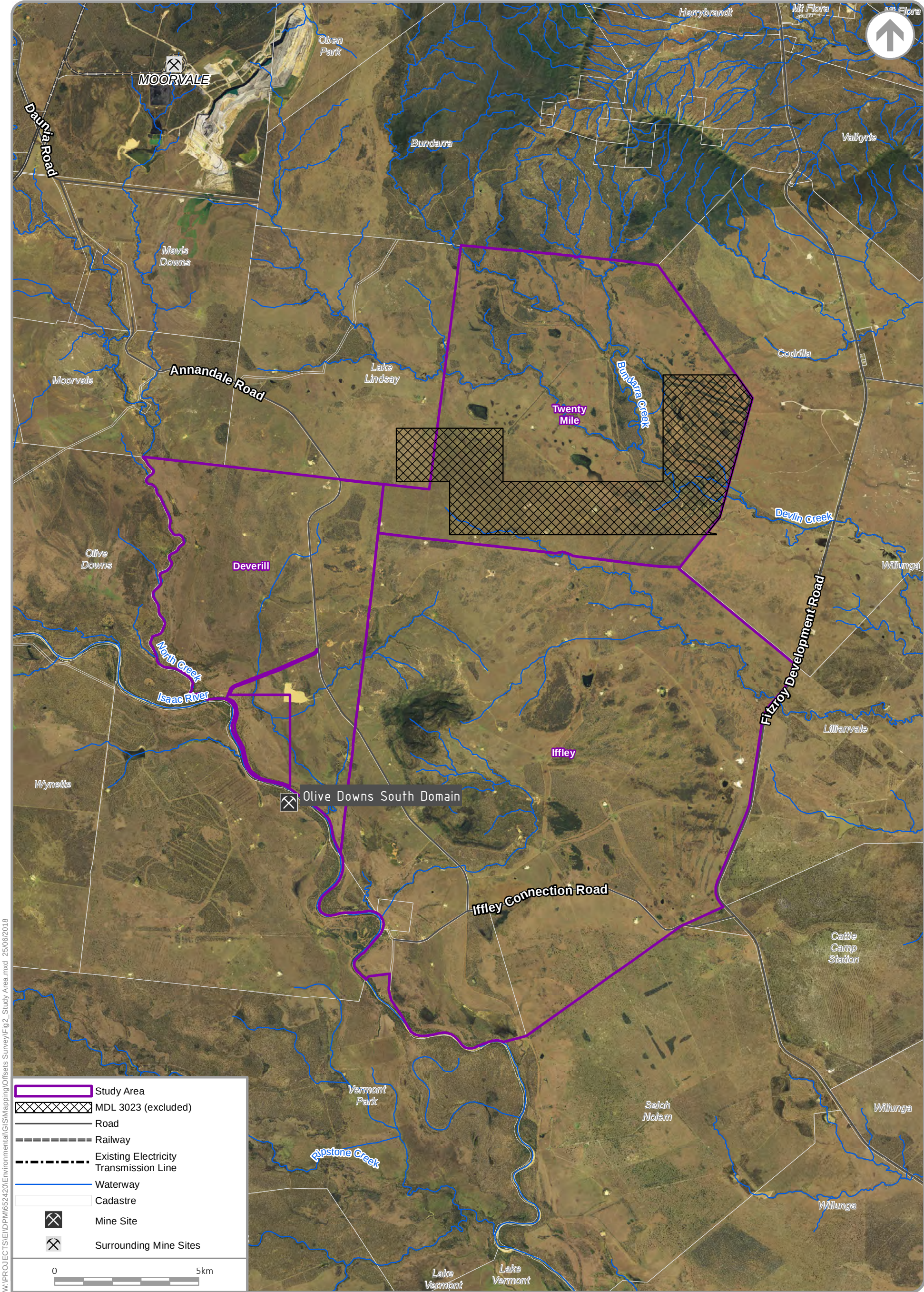
The Study area is approximately 34 kilometres (km) south-east of Moranbah. The overall elevation of the Study area ranges from 170 metres Australian Height Datum (m AHD) on the Isaac River (at the southern end of Iffley) to 470 m AHD at Mt Coxendean. The Study area also contains Coxen's Peak (415 m AHD) and Iffley Mount (310 m AHD), but the majority of the land is flat and relatively low-lying being on a flood plain. The Study area is located within the headwaters of the Isaac River catchment of the greater Fitzroy Basin (Hatch 2018). The Isaac River is the main watercourse which borders the Study area on the western boundary and flows in a north-west to south-east direction, passing the township of Moranbah. Other waterways within the Study area are: North Creek, Devlin Creek and Bundarra Creek. The existing Isaac Plains, Millennium, Poitrel and Daunia coal mines are immediately upstream of the Study area.

Land within the Study area is used predominately for cattle grazing, with small areas showing some evidence of opportunistic cropping. The land has been largely cleared through past agricultural practices; however, some tracts of remnant vegetation remain. In accordance with the field survey, approximately 77% (approximately 23,971 ha) of the Study area is cleared agricultural grasslands and unmapped regrowth, with the remainder of the area mapped as regulated vegetation (Figure 2).

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3 METHODS

3.1 Taxonomic nomenclature

Scientific names of flora used in this report follow the Australian Plant Census (Council of Heads of Australasian Herbaria 2017).

3.2 EVNT species likelihood of occurrence

Endangered, Vulnerable or Near Threatened (EVNT) species identified from the desktop assessment (and subsequent field surveys) were assigned a likelihood of occurrence based on the criteria identified in Table 1. Targeted searches were undertaken in the field for species identified as either being likely to occur, or having potential to occur within the Study area, based on the desktop sources. The methodology was applied again after surveys to determine the likelihood of occurrence once site based information became available.

Table 1 Criteria adopted for the likelihood of Endangered, Vulnerable or Near Threatened species identified from the desktop searches occurring within the Study area

Likelihood of occurrence	Criteria
Unlikely	- species or species habitat may occur, is likely to occur or is known to occur from the broader search area (based on database searches); but - preferred habitat has not been identified within the Study area; and - there are no confirmed species records within 10 km of the Study area; and/or - preferred habitat occurs within the Study area, but there are no confirmed species records within 50 km of the Study area.
Potential	- species or species habitat may occur, is likely to occur or is known to occur from the broader search area (based on database searches); and - preferred habitat occurs within the Study area; and - there are no confirmed species records within 10 km of the Study area; however, there are confirmed species records within 50 km of the Study area; or - species indicated as likely during desktop assessment, but field surveys revealed no evidence of occurrence in the Study area.
Likely	- preferred habitat occurs within the Study area; and - confirmed species records within 10 km of the Study area; however - species not yet confirmed as occurring within the Study area.
Known	confirmed species records within the Study area (generally as a result of subsequent field survey).

3.3 Desktop assessment

Desktop searches were undertaken in March 2018, then again in June 2018, and included a review of the following:

- Department of Environment and Energy (DEE) EPBC Act Protected Matters Search Tool, to identify MNES relevant to flora within a search area extending at least 10 km from the Study area (DEE 2018a) (Appendix B).
- The Queensland Department of Environment and Science (DES) Wildlife Online search results for EVNT and Special Least Concern (SLC) species records within a search area extending at least 50 km from the Study area (DES 2018a) (Appendix B).
- Queensland Herbarium records search for EVNT and SLC species records within the Australian Virtual Herbarium (AVH) (AVH 2018).
- Department of Environment and Heritage Protection (DEHP) Mapping of Matters of State Environmental Significance Version 4.1 (DEHP 2014a), to identify known MSES relevant to flora within the Study area.
- Atlas of Living Australia (ALA) for EVNT and SLC species records (ALA 2018).
- Remnant RE mapping (Version 10.1) for the Study area to identify vegetation communities that are likely to occur (DES 2018b).
- Regulated Vegetation Management mapping (Version 1.37) (which forms part of the MSES mapping) to identify areas of assessable and non-assessable vegetation (Department of Natural Resources and Mining [DNRM] 2017a).
- Essential habitat (EH) mapping (Version 4.34) to identify vegetation in which an EVNT species has been known to occur (DNRM 2017b).
- *Nature Conservation Act 1992* (NC Act) Protected Plants Flora Survey Trigger Map (Version 6.13) to identify any High Risk Areas where EVNT flora are present or are likely to be present (DES 2018c).
- The Fitzroy Natural Resource Management Region Back on Track Actions for Biodiversity (Department of the Environment and Resources [DERM] 2010).

3.4 Flora field survey

The field surveys were undertaken in accordance with the following relevant survey guidelines:

- *Queensland Flora Survey Guidelines – Protected Plants* (DEHP 2016);
- *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland Version 4.0* (Neldner et al. 2017); and
- *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017).

Field surveys were undertaken to confirm the identity of REs and to conduct searches for EVNT flora species across the Study area. Terrestrial habitat quality assessments were only undertaken in areas identified in the desktop assessment as potentially suitable as an offset for Stage One of the Olive Downs Coking Coal Project.

The field survey was undertaken by Bruce McLennan and David Moore (Appendix A).

3.4.1 Survey timing

A series of three surveys were conducted in autumn 2018 from: 6-17 March 2018; 28 April to 7 May 2018; and from 16 to 23 May 2018. Climatic conditions in the lead-up to and throughout this fieldwork were well suited to both flora and fauna surveys.

Conditions at the time of the targeted fauna surveys, as inferred from weather data captured at the Bureau of Meteorology (BoM) Moranbah Airport station 34035 (BoM 2018), were cool to very warm (Figure 4). Minimal rainfall (4.4 millimetres [mm]) was recorded throughout the initial survey period; however, substantial rainfall (186 mm) within the 30 days preceding the initial field surveys resulted in a number of ephemeral waterways, wetlands and gilgai containing surface water at the time of the field survey. The mean minimum and maximum temperatures during the 12 days of survey were 15.5°C and 33.4°C, respectively (BoM 2018).

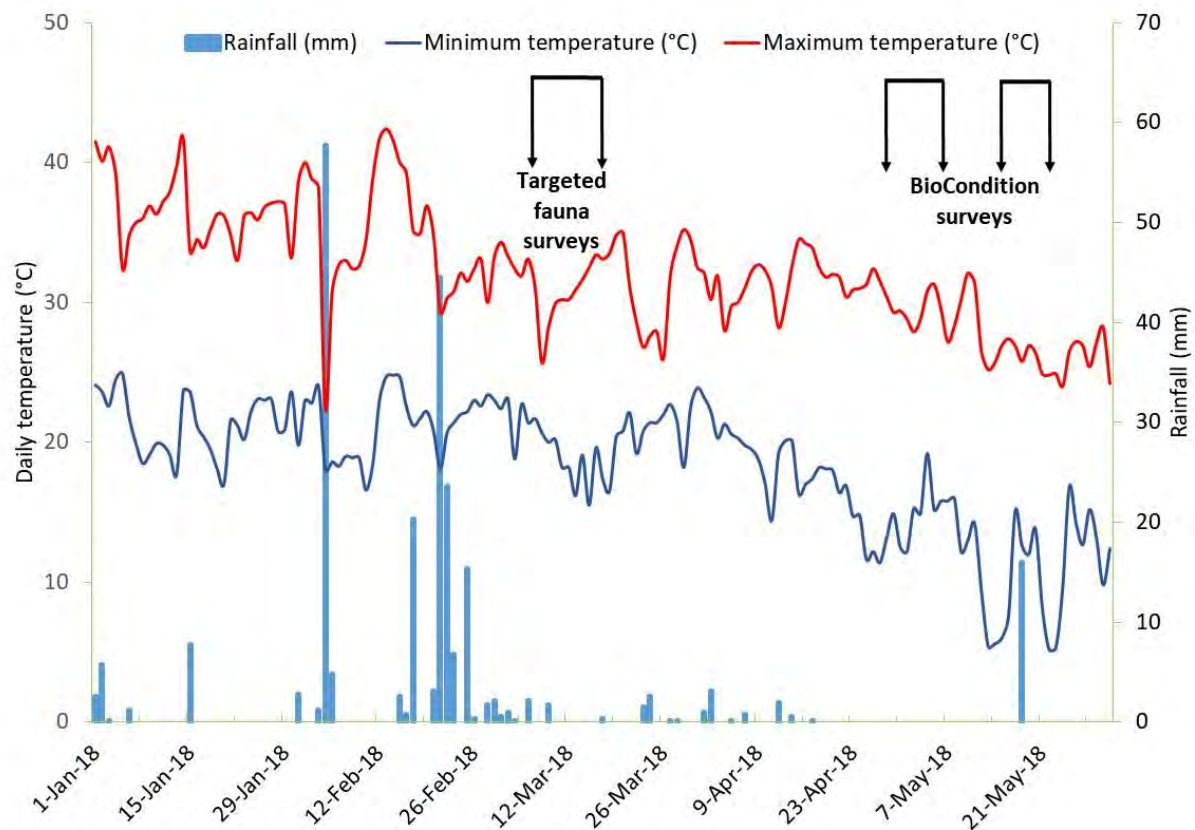


Figure 3 Daily rainfall, mean minimum and mean maximum temperatures at the Moranbah Airport weather station throughout the autumn 2018 surveys of the Study area

3.4.2 Survey locations within the Study area

Aerial imagery and State RE mapping (Version 10.1, DES 2018b) were used to identify 154 sites (March 2018) for the assessment of vegetation communities and habitat quality within the Study area. Site selection aimed to capture numerous representations of each mapped RE within the Study area, as well as adequate spatial separation of sites. Mixed polygons were also targeted to enable identification and separation of constituent REs. The location of some survey sites was refined in the field to capture the most representative datasets. The assessment of vegetation units used quaternary level site assessments to ground truth RE polygons in accordance with the *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland Version 4.0* (Nelder et al. 2017). The flora / vegetation survey effort is depicted in Figure 4.

3.4.3 Vegetation assessment and mapping

Vegetation communities were assessed at a total of 154 sites. This included 114 Quaternary level sites (Appendix C) that were assessed during the first autumn survey undertaken from 6 to 17 March 2018 and 40 terrestrial habitat quality sites (Appendix D) in the second autumn survey from 28 April to 7 May 2018 and 16 to 23 May 2018. Survey site locations are identified in Figure 4. The assessments were undertaken in accordance with the Queensland Herbarium vegetation survey methods described in Neldner et al. (2017). Survey sites were undertaken within representative communities and as vegetation community types transitioned to aid vegetation mapping and interpretation.

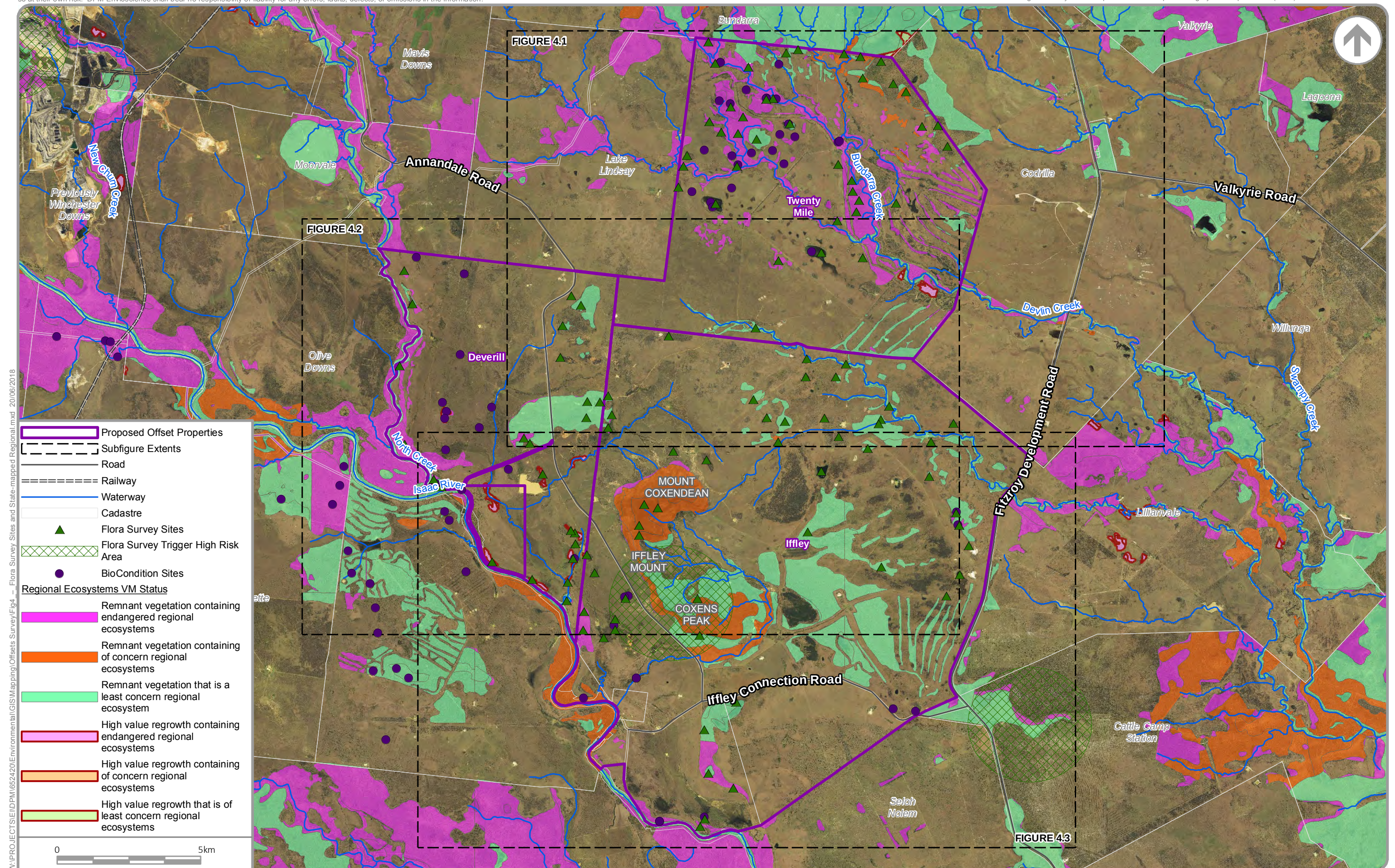
Quaternary level flora assessments were undertaken to confirm the identity of REs and assist in field-verifying the RE mapping boundaries. The following information was recorded at these sites:

- the dominant and characteristic canopy, midstorey and understorey species (relative abundance measured as dominant, abundant, frequent, occasional or rare);
- field-verified RE;
- vegetation condition (integrity as either pristine, excellent, very good, good, average, degraded or completely degraded);
- presence and population characteristics of EVNT flora;
- presence and abundance of Weeds of National Significance (WoNS) and Restricted weeds; and
- other notes of relevance, such as community characteristics (size of community), site features (gullies) or evidence of disturbance.

Terrestrial habitat quality assessments were undertaken in accordance with the methodology described in Section 0 and in line with the *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017a).

RE boundaries were assessed using the State RE mapping (Version 10.1, DES 2018b), the latest available aerial imagery for the Bowen Basin (Queensland Globe 2012), and field assessment results. Vegetation boundaries were mapped at an approximate 1:10,000 scale where possible.

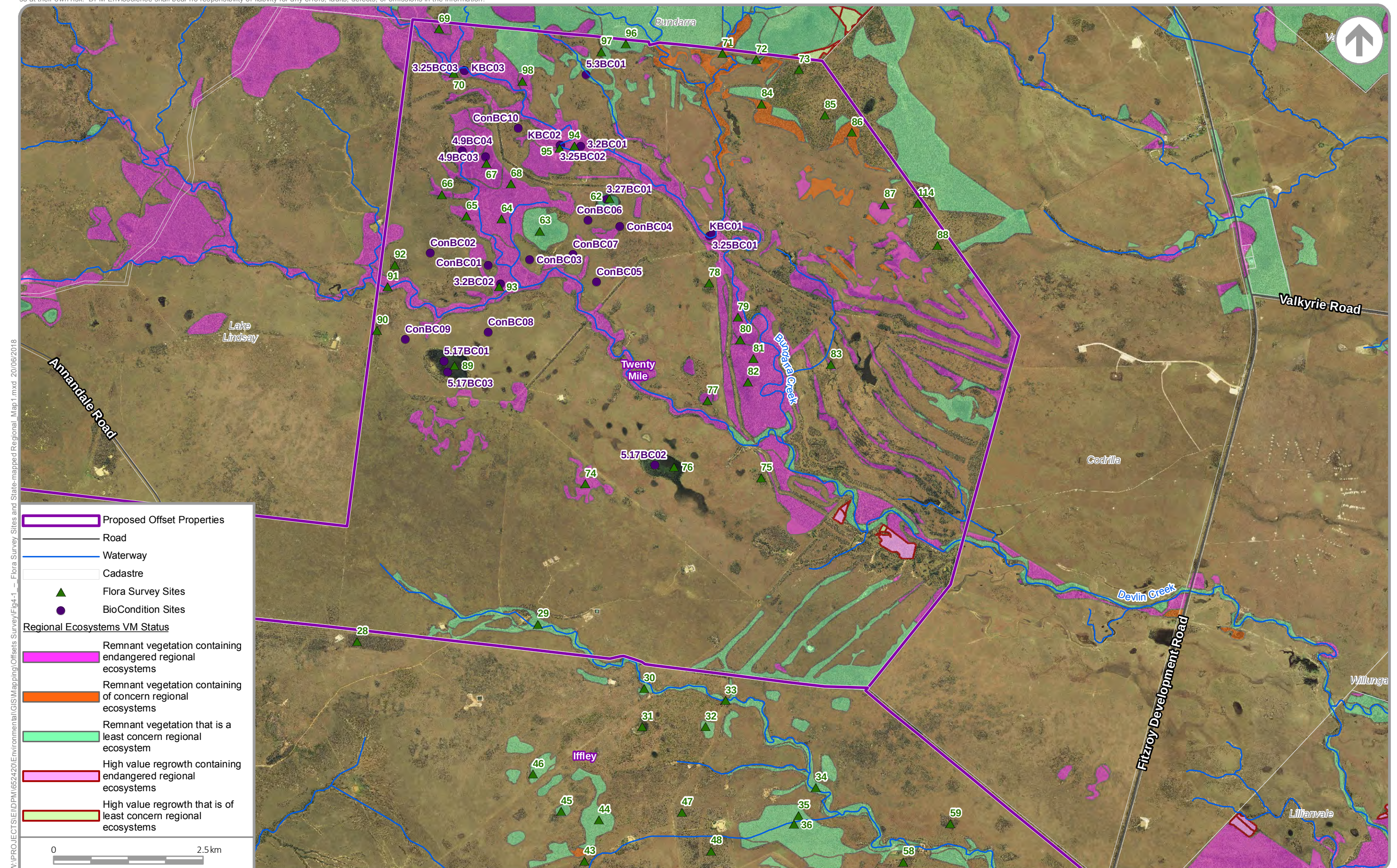
Targeted flora surveys were not undertaken within the Study area, but flora species were noted at each survey site. Any threatened flora or suspected threatened flora recorded during vegetation surveys was vouchered for confirmation with the Queensland Herbarium.



FLORA SURVEY SITES AND STATE -MAPPED REGIONAL ECOSYSTEMS

Olive Downs Offset Surveys

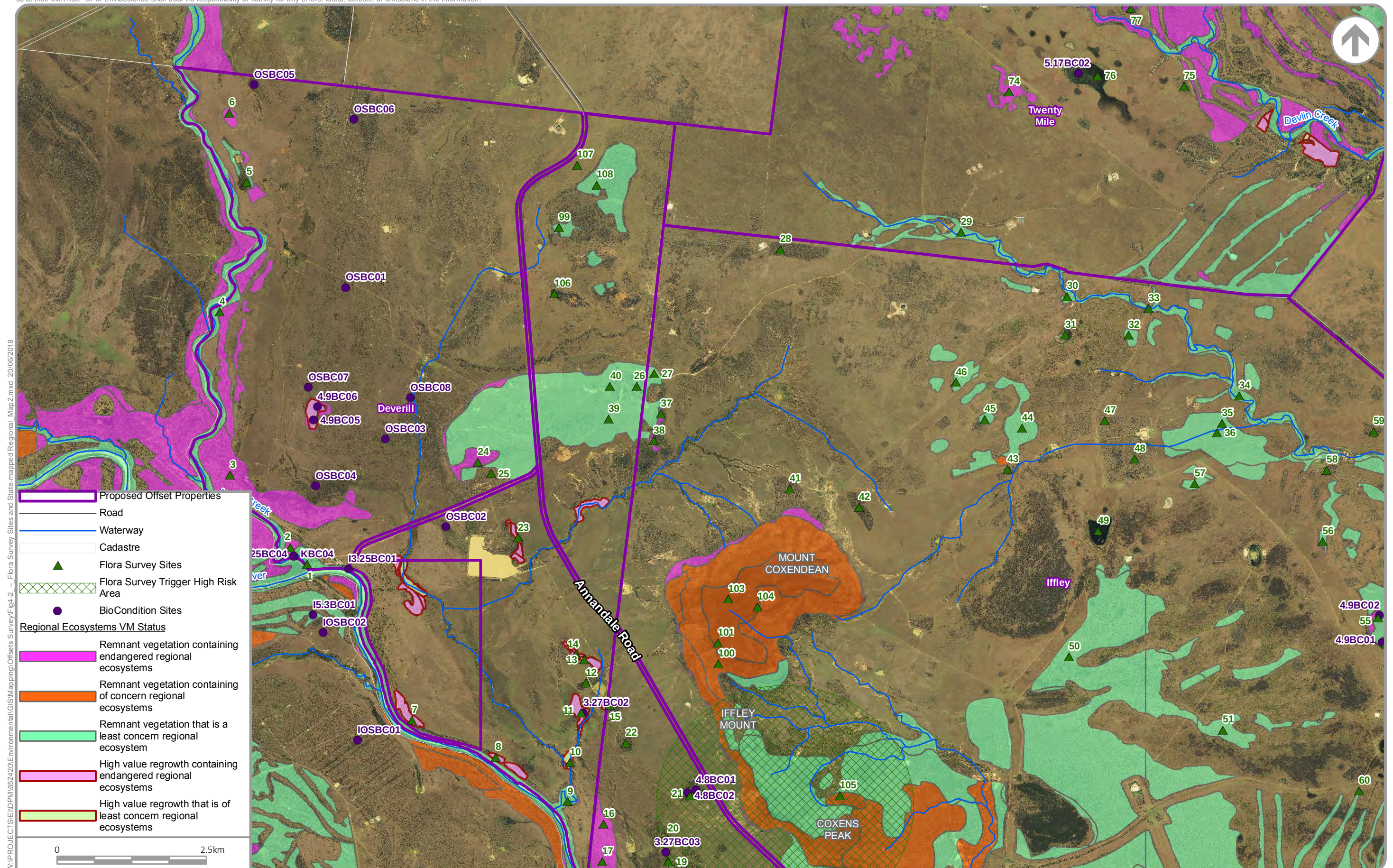
FIGURE 4



FLORA SURVEY SITES AND STATE-MAPPED REGIONAL ECOSYSTEMS – MAP 1

Olive Downs Offset Surveys

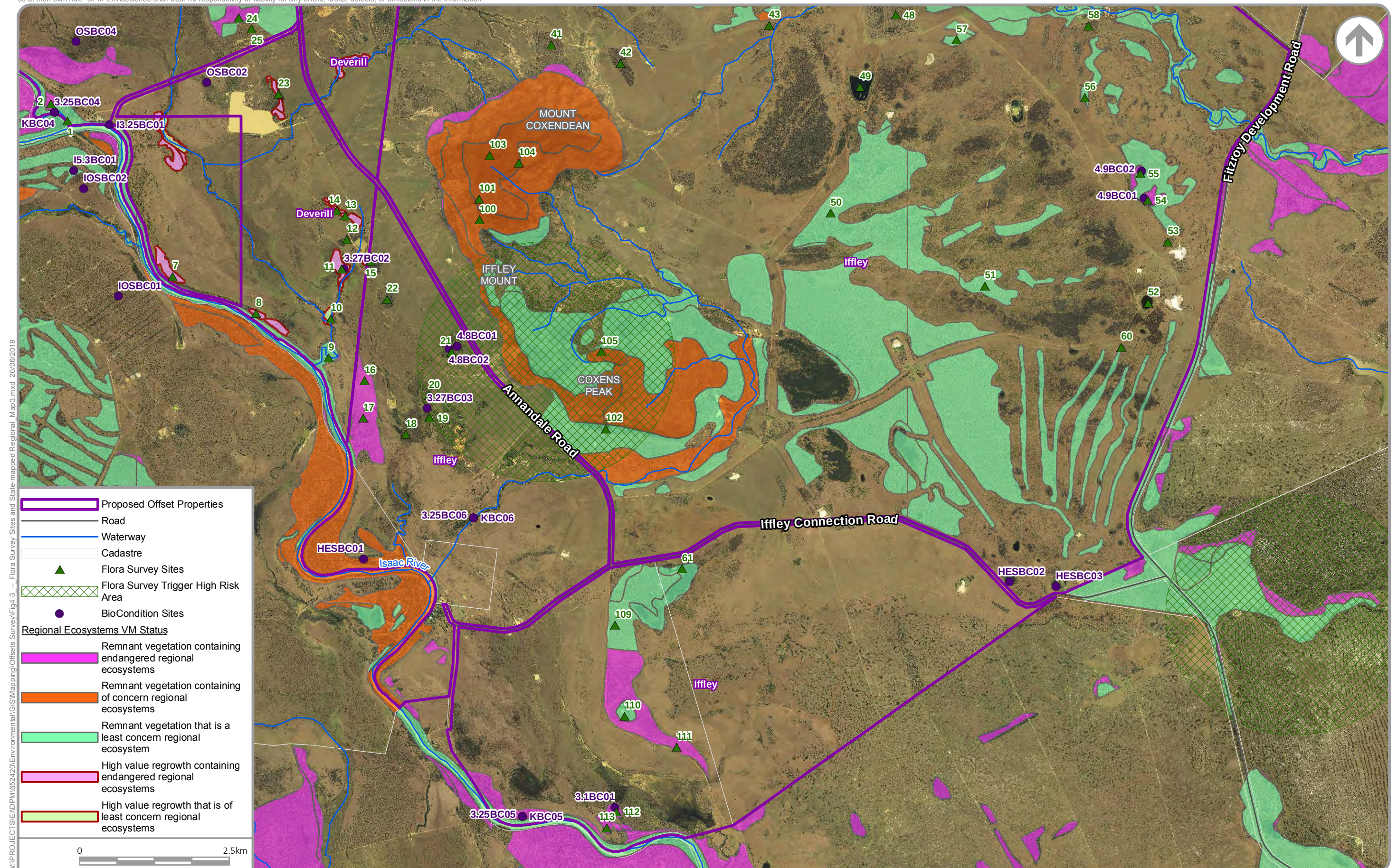
FIGURE 4.1



FLORA SURVEY SITES AND STATE -MAPPED REGIONAL ECOSYSTEMS – MAP 2

Olive Downs Offset Surveys

FIGURE 4.2



FLORA SURVEY SITES AND STATE -MAPPED REGIONAL ECOSYSTEMS – MAP 3

Olive Downs Offset Surveys

FIGURE 4.3

3.4.4 Threatened Ecological Communities mapping

The desktop review identified two TECs with potential to occur in the Study area. Where the field surveys identified vegetation communities containing constituent species of a TEC, the condition thresholds described in the Commonwealth listing advice were referenced to determine whether the community met the TEC status. The condition thresholds of relevant TECs are summarised as follows:

Brigalow (*Acacia harpophylla*) dominant and co-dominant – Endangered TEC (EPBC Act)

A patch must include each of the following key diagnostic characteristics to be considered the Brigalow TEC (Department of the Environment [DotE] 2013b):

1. The presence of *Acacia harpophylla* as one of the most abundant tree species in the patch. *A. harpophylla* is either dominant in the tree layer, or co-dominant with other species (notably *Casuarina cristata*, other species of *Acacia*, or species of *Eucalyptus*).
2. In Queensland, the patch is in one of the following bioregions (including outliers) and it meets the description of one of 16 REs determined at the time of the national listing of the Brigalow TEC. The 12 REs relevant to the Study area, as described by the Queensland Herbarium (2013), comprise:
 - Brigalow Belt Bioregion REs:
 - 11.3.1 – *Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains;
 - 11.4.3 – *Acacia harpophylla* and/or *Casuarina cristata* shrubby open forest on Cainozoic clay plains;
 - 11.4.7 – *Eucalyptus populnea* with *Acacia harpophylla* and/or *Casuarina cristata* open forest to woodland on Cainozoic clay plains;
 - 11.4.8 – *Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains;
 - 11.4.9 – *Acacia harpophylla* shrubby woodland with *Terminalia oblongata* on Cainozoic clay plains;
 - 11.4.10 – *Eucalyptus populnea* or *E. woollsiana*, *Acacia harpophylla*, *Casuarina cristata* open forest to woodland on margins of Cainozoic clay plains;
 - 11.5.16 – *Acacia harpophylla* and/or *Casuarina cristata* open forest in depressions on Cainozoic sand plains and remnant surfaces;
 - 11.9.1 – *Acacia harpophylla*-*Eucalyptus cambageana* woodland to open forest on fine-grained sedimentary rocks;
 - 11.9.5 – *Acacia harpophylla* and/or *Casuarina cristata* open forest on fine-grained sedimentary rocks;
 - 11.9.6 – *Acacia melvillei* +/- *A. harpophylla* open forest on fine-grained sedimentary rocks;
 - 11.11.14 – *Acacia harpophylla* open forest on deformed and metamorphosed sediments and interbedded volcanics;
 - 11.12.21 – *Acacia harpophylla* open forest on igneous rocks. Colluvial lower slopes;

In addition, a patch must meet the following condition thresholds to be the Brigalow TEC:

3. The patch is 0.5 ha or more in size; and

4. Exotic perennial plants comprise less than 50% of the total vegetation cover of the patch, as assessed over a minimum sample area of 0.5 ha (100 m by 50 m), that is representative of the patch.

The Brigalow TEC also includes some vegetation considered to be 'non-remnant' within state classifications (e.g. regrowth vegetation not included in Queensland RE mapping), in particularly brigalow regrowth more than 15 years old. However, areas of regrowth vegetation are not considered part of the EPBC Act listed Brigalow TEC if they are of poor quality (e.g. more than 50% perennial weeds) (DotE 2013b).

Natural Grasslands of the Queensland Central Highlands and the Northern Fitzroy Basin – Endangered TEC (EPBC Act)

Within the specified Brigalow Belt subregions (including the Brigalow Belt North Isaac – Comet Downs subregion [BNN11] in which the Study area is located), the Natural grasslands of the Queensland Central Highlands and the northern Fitzroy Basin TEC includes the following seven Queensland REs (Threatened Species Scientific Committee [TSSC] 2009):

- RE 11.3.21 – *Dichanthium sericeum* and/or *Astrebla* spp. grassland on alluvial plains. Cracking clay soils;
- RE 11.4.4 – *Dichanthium* spp., *Astrebla* spp. grassland on Cainozoic clay plains;
- RE 11.4.11 – *Dichanthium sericeum* and *Astrebla* spp. grassland with patchy *Acacia harpophylla* or *Eucalyptus coolabah* on Cainozoic clay plains;
- RE 11.8.11 – *Dichanthium sericeum* grassland on Cainozoic igneous rocks;
- RE 11.9.3 – *Dichanthium* spp., *Astrebla* spp. grassland on fine-grained sedimentary rocks;
- RE 11.9.12 – *Dichanthium sericeum* grassland with clumps of *Acacia harpophylla* on fine-grained sedimentary rocks; and
- RE 11.11.17 – *Dichanthium sericeum* grassland on old sedimentary rocks with varying degrees of metamorphism and folding.

This TEC is characterised by (Department of Sustainability, Environment, Water, Population and Communities [DSEWPC] 2012b):

- tree canopy absent or sparse (less than 10% projective foliage cover) – if it can be demonstrated, beyond reasonable doubt, that the grassland was derived from cleared woodland then it is not part of the TEC; and
- the ground layer is typically dominated by perennial native grasses and contains at least three of the indicator native species listed below:
 - feather-top wiregrass (*Aristida latifolia*);
 - white speargrass (*Aristida leptopoda*);
 - hoop Mitchell grass (*Astrebla elymoides*);
 - curly Mitchell grass (*Astrebla lappacea*);
 - bull Mitchell grass (*Astrebla squarrosa*);
 - satin-top grass (*Bothriochloa erianthoides*);
 - King blue-grass (*Dichanthium queenslandicum*);
 - Queensland bluegrass (*Dichanthium sericeum*);
 - cup grass (*Eriochloa crebra*);
 - native millet (*Panicum decompositum*);

- yabila grass (*Panicum queenslandicum*);
- shot grass (*Paspalidium globoideum*); and
- coolibah grass (*Thellungia advena*).

The condition thresholds for this TEC are identified in Table 2.

Table 2 Condition thresholds for the Natural Grasslands of the Queensland Central Highlands and the Northern Fitzroy Basin Threatened Ecological Community (TSSC 2009)

Attribute	TEC Condition	
	Best quality	Good quality
Patch size	≥ 1ha	≥ 5ha
Grasses	≥ 4 native perennial grass species from the list of perennial native grass indicator species	≥ 3 native perennial grass species from the list of perennial native grass indicator species
Tussock cover	≥ 200 native grass tussocks	≥ 200 native grass tussocks
Woody shrub cover	Total projected canopy cover of shrubs is < 30%	Total projected canopy cover of shrubs < 50%
Introduced species	Perennial non-woody introduced species are < 5% of the total projected perennial foliage cover.	Perennial non-woody introduced species are < 30% of the total projected perennial foliage cover.

¹The shrub layer is typically absent. However, where shrubs are present, they are defined as woody plants, more than 0.5 m tall that occupy the mid vegetation layer. The upper, or tree canopy layer, also is typically absent but may comprise scattered trees to less than 10% projective crown cover.

Sampling should be based upon a quadrat size of 0.1ha (e.g. 50 m x 20 m) selected in an area with the most apparent native perennial grass species. Unless exceptional circumstances apply, to maximise the assessment of condition, sites must be assessed during a good season, two months after cessation of disturbance (fire / grazing / mowing / slashing) and within two months of effective rain.

3.5 Fauna field survey

Fauna surveys within the Olive Downs Coking Coal Project area (DPM Envirosciences 2018b) identified the presence of the following threatened species:

- ornamental snake – Vulnerable (EPBC Act and NC Act);
- Australian painted snipe – Endangered (EPBC Act); Vulnerable (NC Act);
- squatter pigeon (southern) – Vulnerable (EPBC Act and NC Act);
- koala – Vulnerable (EPBC Act and NC Act); and
- greater glider – Vulnerable (EPBC Act and NC Act).

These threatened species are the target fauna for the baseline offset surveys. The aim of the baseline offset surveys is to confirm the presence of the target threatened fauna species and / or supportive habitat in the Study area. The field surveys were undertaken in accordance with the following relevant survey guidelines:

- *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland* (Eyre et al. 2014);
- *EPBC Act survey guidelines for Australia's threatened reptiles* (DSEWPC 2011a);
- *EPBC Act survey guidelines for Australia's threatened birds* (Department of the Environment, Water Heritage and the Arts [DEWHA] 2010);
- *EPBC Act survey guidelines for Australia's threatened mammals* (DSEWPC 2011b);

- *EPBC Act draft referral guidelines for the nationally listed Brigalow Belt reptiles* (DSEWPC 2011c);
- *EPBC Act Referral Guidelines for the Vulnerable Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)* (DotE 2014); and
- *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017).

Targeted fauna surveys were undertaken across the Study area. Terrestrial habitat quality assessments were undertaken to evaluate target fauna habitat (in accordance with the *Guide to Determining Terrestrial Habitat Quality* [DEHP 2017]) in areas identified from the desktop assessment as being potentially suitable as an offset for Stage One of the Olive Downs Coking Coal Project.

3.5.1 Survey timing

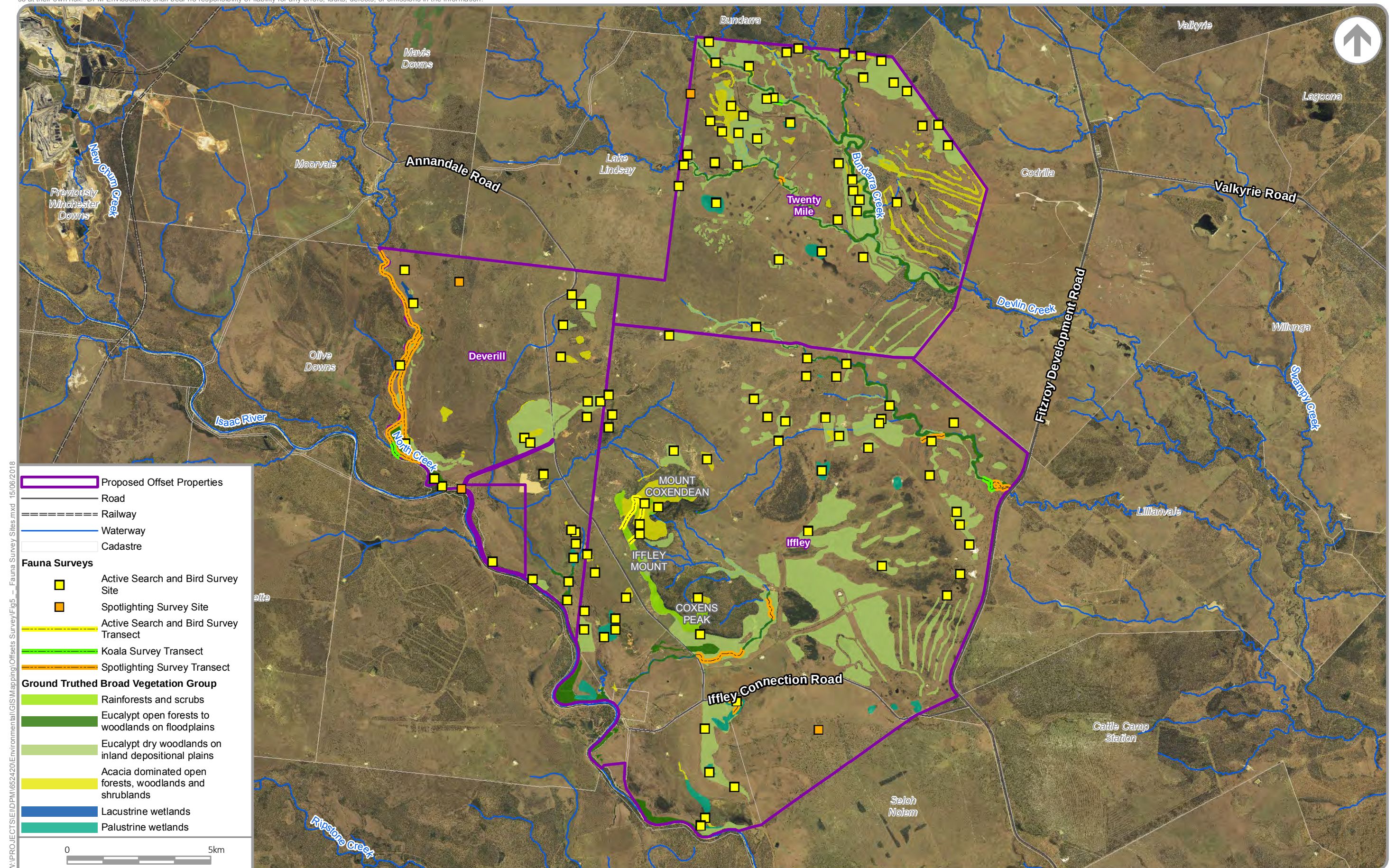
A targeted fauna survey was undertaken within the Study area in autumn from 6 – 17 March 2018. Conditions are described in Section 3.4.1. This is consistent with Eyre et al. (2014) (Table 3). Whilst it is generally recommended that seasonal surveys are conducted for ecological impact assessments, they are not always necessary for proposed offset sites provided target species and potential habitat are identified.

Table 3 Optimal time of year and conditions for vertebrate fauna surveys in the Brigalow Belt Bioregion (Eyre et al. 2014)

Survey timing	Rationale
spring to early summer (September to mid November)	As temperatures begin to warm up after winter there is a peak in vertebrate activity with the commencement of breeding activity in many species. Exact timing is dependent on the timing of the onset of spring, when temperatures begin to warm but before summer temperatures become too high as many species, especially reptiles, become less active. Rainfall is also a major trigger for increased activity in many species. This period can be very dry so conducting a second survey during moist periods is critical.
autumn (March to mid May)	A second survey should be undertaken after summer as the temperatures decrease but before the onset of cold winter nights. This coincides with another active period including dispersal and migration of many species. It is also more likely to be moist than during the spring-early summer period, and also coincides with the grass seeding and growing season (important for granivores).

3.5.2 Survey locations

Targeted fauna surveys were undertaken across the Study area with the aim of confirming the presence of EVNT target fauna species (including koala, greater glider, ornamental snake, squatter pigeon [southern] and Australian painted snipe). This included active searches for each species as well as searches for signs of their occupation (e.g. scratches and scats) at each of the 114 flora assessment sites, and at an additional two sites (Figure 5). Spotlighting searches were undertaken at 15 locations over four nights, and koala transect searches were undertaken at three locations (Figure 5). Habitat quality assessments were undertaken at 40 terrestrial habitat quality sites (Figure 4) deemed as potentially valuable offsets for Stage One of the Olive Downs Coking Coal Project.



W:\PROJECTS\INDPM\652420\Environmental\GIS\Mapping\Offsets Survey\Fig5 - Fauna Survey Sites.mxd 15/06/2018

3.5.3 Terrestrial habitat quality

The location and number of terrestrial habitat quality assessment sites was determined from the ground-truthed RE mapping (derived from the 114 quaternary sites sampled in March 2018). A total of 40 terrestrial habitat quality assessments were completed in the Study area in April and May 2018. Their locations are shown in Figure 4.

The *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017) forms the basis of the methodology for sampling of terrestrial habitat quality across the Study area and should be referenced for a detailed description of the methodology. Habitat quality is assessed through a strategic combination of indicators that measure the overall viability of the site and its capacity to support a prescribed environmental matter. The three key indicators for determining habitat quality of a land based impact or offset site are:

1. site condition: a general condition assessment of vegetation compared to a benchmark;
2. site context: an analysis of the site in relation to the surrounding environment; and
3. species habitat index: the ability of the site to support a species.

Each of the three indicators are scored, then summed and translated to a final score out of 10.

Site Condition

The methodology employed at each of the terrestrial habitat quality assessment sites involved the collection of the following data within a 100 m x 50 m transect:

- recruitment of woody perennial species in the ecologically dominant layer;
- native plant species richness for trees, shrubs, grasses and forbs;
- tree canopy height;
- tree canopy cover;
- shrub canopy cover;
- native perennial grass cover;
- organic litter;
- large trees;
- coarse woody debris; and
- non-native plant cover.

Each survey site's data was scored individually against a BioCondition benchmark relevant to the RE represented and compared against a set of maximum scores defined in the *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017).

Site context

GIS analysis was undertaken to score the following site context attributes:

- size of patch;
- connectedness;
- context;
- distance to permanent watering point; and
- ecological corridors.

Each of the above attributes is associated with a score determined in the *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017) and compared to a set of maximum scores. Once all of the scores are collected for each attribute the overall site context score can be calculated.

Species Habitat Index (for fauna species offsets)

Species habitat index measures the capacity of a site to support a species and requires field survey data, available modelling and current species records. The index represents an analysis of the quality and availability of habitat for the species, and the likelihood of continued existence of the species at the site. At the same time as the site condition data was collected, the following fauna site attributes relevant to each target species were recorded:

- threats to species (e.g. clearing, barriers, disease, fire, hydrological change, pests etc.);
- quality and availability of food and foraging habitat;
- quality and availability of shelter;
- species mobility capacity; and
- role of site location to overall population.

Each of the above attributes is associated with a score determined in the *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017) and compared to a set of maximum scores. Once all of the scores are collected for each attribute the overall site species habitat index score can be calculated.

Final terrestrial habitat quality score (out of 10)

The final Habitat Quality Score (measured) for each site / assessment unit involves adding the scores for 'site condition', 'site context' and 'species habitat index' (if applicable). This score is then compared to the Habitat Quality Score (maximum), which is the highest score that the assessment unit could achieve if it was in optimum condition. Each site's habitat quality score contributes to an average score for each assessment unit and is converted to a score out of 10.

Area weighted terrestrial habitat quality score

For each assessment unit (or RE type), the assessment unit area (in ha) is divided by the total offset site area (in ha) to find the size weighting for that assessment unit. Then each assessment unit habitat quality score is multiplied by its size weighting.

3.5.4 Targeted fauna survey effort

The fauna surveys were undertaken in accordance with the Commonwealth guidelines for the survey of MNES reptiles (DSEWPC 2011a), birds (DEWHA 2010) and mammals (DSEWPC 2011b), as well as draft referral guidelines for the nationally listed Brigalow Belt reptiles (DSEWPC 2011c) and koala (DotE 2014). These guidelines are not mandatory but outline the recommended effort and methods for MNES species. Similarly, the Queensland government's *Terrestrial Fauna Survey Guidelines for Queensland* (Eyre et al. 2014) provide generic guideline methods for a range of fauna species. The targeted fauna surveys were undertaken in accordance with these guidelines (Table 4).

Squatter pigeon and Australian Painted Snipe

Searches for squatter pigeon and Australian painted snipe were undertaken at each of the 116 sites (areas of wetland habitat were included specifically for Australian painted snipe). Some of these searches were dedicated dawn and / or dusk bird surveys. A transect targeting these bird species was also undertaken at Mount Coxendean, as well as three other diurnal transects along waterways.

Koala

Koala searches at each of the 116 sites involved looking for scratches, scats and individuals in areas of potential habitat. Koala transects within areas of high quality potential habitat (i.e. in riparian vegetation along waterways) were also undertaken at three locations. Nocturnal call playback and spotlighting were undertaken at 15 locations (including within high quality potential habitat).

Greater Glider

Greater glider searches at each of the 116 sites involved looking for scratches, scats and individuals in areas of potential habitat, as well as three other diurnal transects along waterways. Nocturnal spotlighting was undertaken at 15 locations (including within high quality potential habitat).

Ornamental Snake

Ornamental snake searches were achieved by conducting active searches at each of the 116 sites and undertaking nocturnal searches at a number of spotlighting sites, as well as opportunistic road surveys conducted whilst driving throughout the Study area.

3.5.5 Opportunistic fauna observations

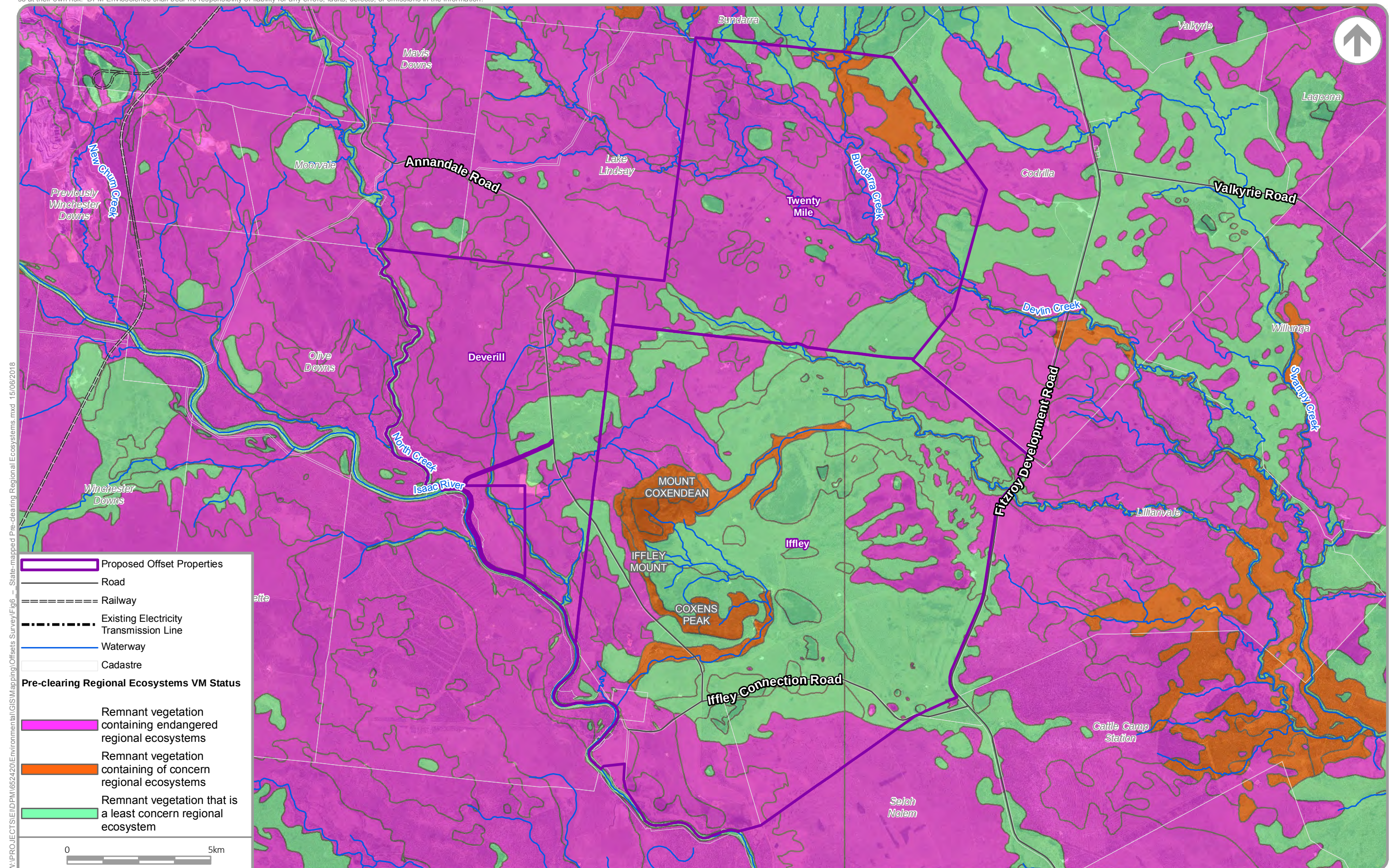
Any target fauna species heard or seen during the surveys and whilst moving throughout the Study area, were recorded, along with signs of animals (scats, bones, tracks, scratches, diggings etc.).

3.6 Olive Downs Coking Coal Project area survey

Within the impact area, a number of terrestrial habitat quality assessments were undertaken within each assessment unit impacted by Stage One of the Project (Figure 6). An assessment unit was defined as an RE based on the ground-truthed RE mapping for the impact area. The number of terrestrial habitat quality assessments per assessment unit was determined in accordance with the *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017). For those MSES or MNES containing more than one RE, the terrestrial habitat quality assessment results were averaged across the relevant assessment units. A total of 28 terrestrial habitat quality sites were assessed, some for multiple values, in the Stage One impact area in April and May 2018 (Appendix E).

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STATE-MAPPED PRE-CLEARING REGIONAL ECOSYSTEMS

Olive Downs Offset Surveys

FIGURE 6

Table 4 Targeted fauna species and the recommended survey methods for each species in comparison to the actual effort undertaken by DPM Envirosciences

Species	Status		Commonwealth survey guidelines	EPBC Act referral guidelines	Queensland guideline	Effort and method undertaken
	EPBC Act ¹	NC Act ²				
Birds						
Squatter pigeon (southern) (<i>Geophaps scripta scripta</i>)	V	V	- Area searches or transect surveys – 15 hours (hrs) / 3 days; and - Flushing surveys – 10 hrs / 3 days. - These methods apply to areas less than 50 ha (DEWHA 2010).	There are no referral guidelines for this species.	No species-specific guideline, but the effort for general bird surveys recommends six 5-10 minute area searches within 1 ha survey site. Species may also be detected incidentally while conducting other surveys or whilst moving across the Study area.	- Bird surveys and flushing surveys were conducted in autumn 2018 at 116 sites and four transects. 62 hours of bird surveys were conducted over 12 days. The species was detected
Australian Painted Snipe (<i>Rostratula australis</i>)	V	V	- Targeted stationary observations at dawn and dusk of suitable foraging locations within wetlands (10 hrs / 5 days). - Land-based area searches or transect surveys (10 hours / 3 days) for sites <50 ha when wetland holds water but is not flooded (DEWHA 2010).	There are no referral guidelines for this species.	No species-specific guideline, but the effort for general bird surveys recommends six 5-10 minute area searches within a 1 ha survey site. Species may also be detected incidentally while conducting other surveys or whilst moving across the Study area.	- Bird surveys and flushing surveys were conducted in autumn 2018 at 116 sites and four transects. 62 hours of bird surveys were conducted over 12 days. - The species was not detected.

Species	Status		Commonwealth survey guidelines	EPBC Act referral guidelines	Queensland guideline	Effort and method undertaken
	EPBC Act ¹	NC Act ²				
Mammals						
Koala (<i>Phascolarctos cinereus</i>)	V	V	Koala not included in <i>Survey guidelines for Australia's threatened mammals 2011</i> (DSEWPC 2011c), as it was listed as Vulnerable in 2012.	These guidelines do not prescribe survey effort standards for koala surveys, but suggest a range of direct and indirect methods to detect koalas, including: - Strip transects; nocturnal spotlighting; call playback; remote sensor (IR) cameras; mark-resight / mark-recapture; detection dogs; radio or satellite collars; identification of scratching and scats. - Spot Assessment Technique (SAT).	No species-specific guideline, but call playback may be used and scats and scratches may also be used to determine presence.	- Scratch and scat searches undertaken across 116 sites in autumn 2018. - Spot-lighting 15 sites (including a number of transects) over four nights. 3 x strip transects. 68.5 hours of koala surveys were conducted over 12 days. The species was detected.
Greater glider (<i>Petauroides volans</i>)	V	V	Greater glider not included in <i>Survey guidelines for Australia's threatened mammals 2011</i> (DSEWPC 2011c), as it was listed as Vulnerable in 2016.	There are no referral guidelines for this species.	No species-specific guideline, but call playback, vehicle spotlighting and spotlighting transects may be used to detect gliders.	- Scratch and scat searches undertaken across 116 sites in autumn. - Spot-lighting 15 sites (including a number of transects) over four nights. 3 x strip transects. 68.5 hours of greater glider surveys were conducted over 12 days. The species was detected.

Species	Status		Commonwealth survey guidelines	EPBC Act referral guidelines	Queensland guideline	Effort and method undertaken
	EPBC Act ¹	NC Act ²				
Reptiles						
Ornamental snake (<i>Denisonia maculata</i>)	V	V	• Searches around gilgai habitat while frogs are active, driving roads at night, particularly after wet weather when frogs are active. • Diurnal searches under sheltering sites (rocks, logs), pitfall and funnel traps could also be trialled. • No quantitative survey effort is specified in this guideline.	• One off diurnal searches of microhabitat for 1.5 person hours per ha over 3 days. • Spotlighting: - target water-inundated gulgais, wetlands, riparian habitats and surrounding environs and large logs; - warm humid evenings; and - 1.5 person hours per ha over a minimum 3 days. • Opportunistic surveys: - whilst driving within the Study area; and - following heaving rainfall events and during warm evenings; • Pitfall and funnel trapping over four days: - six 20 L buckets under a 30 m drift fence; - funnel at pitfall line ends; and - 2 replicates per habitat type.	No species-specific guideline is provided, however general reptile survey effort are: • 4 buckets at 7.5 m intervals on T-design with a 45 m fence (pitfall trapping); • 6 funnels 3 m in on distal end of T-design with a 45 m fence; • 2 x 30 person-minute searches within two different 0.25 ha quadrants of the survey site. Other supplementary habitat areas of interest outside of dedicated survey sites may also be searched; and • 2 x 30 person-minute searches within the dedicated survey site. Other supplementary habitat areas of interest outside of dedicated survey sites may also be searched.	• Snake surveys and flushing surveys were conducted in autumn 2018 at 116 sites and four transects. • Spot-lighting 15 sites (including a number of transects) over four nights. • 69.5 hours of snake surveys were conducted over 12 days • The species was detected.

Notes: ¹Environment Protection and Biodiversity Conservation Act 1999; ²Nature Conservation Act 1992

4 FLORA CHARACTERISTICS OF THE STUDY AREA

4.1 Vegetation communities

4.1.1 General description

Large parts of the Study area appear to have been subjected to both historic (late 1970's) and recent clearing for agricultural grazing (Figure 9). The most degraded REs are those belonging to the clay soil brigalow communities (Broad Vegetation Group [BVG] 10), with very few remnant areas remaining. The remnant patches that remain are generally small (less than 10 ha), with the majority subjected to edge effects from adjoining clearings that have been 'improved' with buffel grass (*Cenchrus ciliaris*) pasture. Higher quality brigalow communities are located in Deverill and Iffley close to and within the broad Isaac River floodplain.

The majority of extant vegetation is eucalypt woodland on alluvium adjacent to the Isaac River and eucalypt woodlands on Cainozoic sand plains. The BVGs (BVG 1:5 million) within the Study area (in order of dominance) are:

- BVG 5 – Eucalypt dry woodlands on inland depositional plains;
- BVG 3 - Eucalypt woodlands to open forests;
- BVG 10 – Acacia dominated open forests, woodlands and shrublands;
- BVG 4 – Eucalypt open forests to woodlands on floodplains;
- BVG 15 – Wetlands; and
- BVG 1 – Rainforests, scrubs.

In general, the woodlands (BVG 3 to 5) are in poor condition, being cleared in most part with the exception of retained shelter belts and patches. The greatest clearing has occurred in the poplar box woodlands (BVG 5) that were initially cleared in 1977 and 1978, as inferred from aerial photography. It is likely that subsequent re-clearing of regrowth vegetation has occurred at least once in the past 40 years. Some areas now carry advanced regrowth (10 m tall canopy) estimated to be 20 years old. Narrow leaved ironbark and mixed *Corymbia* woodlands on weathered red sands (BVG 3 and 4) is a substantial community across the Study area. The largest area of remnant vegetation of this community is on the eastern portion of Iffley and is surrounded by cleared areas containing advanced low quality regrowth (dominated by *Acacia* sp.).

There are a number of ephemeral wetlands (BVG 15) varying in size from small to large, some of which have been cleared of woody vegetation. The wetlands where the Queensland blue gum dominated vegetation has been retained are in good to average condition, suffering impacts from grazing stock and feral animals. Some of the wetlands are surrounded by regrowth vegetation with good connectivity value, while others are largely isolated by clearing. There are a number of watercourses throughout the Study area with associated riparian woodland vegetation. North Creek on Deverill's western boundary has a narrow riparian corridor of mostly Queensland blue gum and poplar box dominated woodland. North Creek joins the Isaac River corridor on Deverill, which flows south through Iffley to the property boundary. Through Iffley a number of minor watercourses flow from the east to provide linkages of riparian vegetation from Iffley Mountain to the Isaac River. There are two well vegetated watercourses that flow from the north-west corner of Twenty-Mile (Bundarra Creek and Devlin Creek). These watercourses are surrounded by advanced poplar box and Dawson gum regrowth. Iffley Mountain is an area with largely pristine values, having little historical impact from clearing, grazing animals or weeds. Communities on the mountain include Eucalypt and Acacia woodlands on sandstone and

derived soils as well as significant areas of semi-evergreen vine thicket on coarse grained sedimentary rocks (BVG 1).

4.1.2 Pre-clearing Regional Ecosystems

The Queensland Government has mapped the REs that were likely to be present prior to clearing across all of Queensland. This mapping is based on the distribution of extant REs, land zones and topography. It predicts what REs were present in an area, prior to disturbance and land-clearing. It is useful in situations where the vegetation on the ground is non-existent, sparse or heavily degraded and the identification of the original REs is difficult. As a tool for offset projects, it can assist in the identification of early stage regrowth and help to define management units.

The pre-clearing RE mapping for the Study area (Figure 7) indicates that, prior to clearing for agriculture, the vegetation in the Study area was primarily Acacia dominated communities (e.g. RE 11.3.1, RE 11.4.8 and RE 11.4.9) in the lower areas and near waterways where there are also numerous small wetlands (e.g. RE 11.3.27) and fringing riparian communities (e.g. RE 11.3.25). The hills and mountains (Mount Coxendean, Iffley Mount and Coxens Peak) were mapped as Rainforest scrubs (e.g. RE 11.10.8) integrating into Eucalypt dry woodlands on inland depositional plains (e.g. RE 11.5.9) on the lower slopes and to the east.

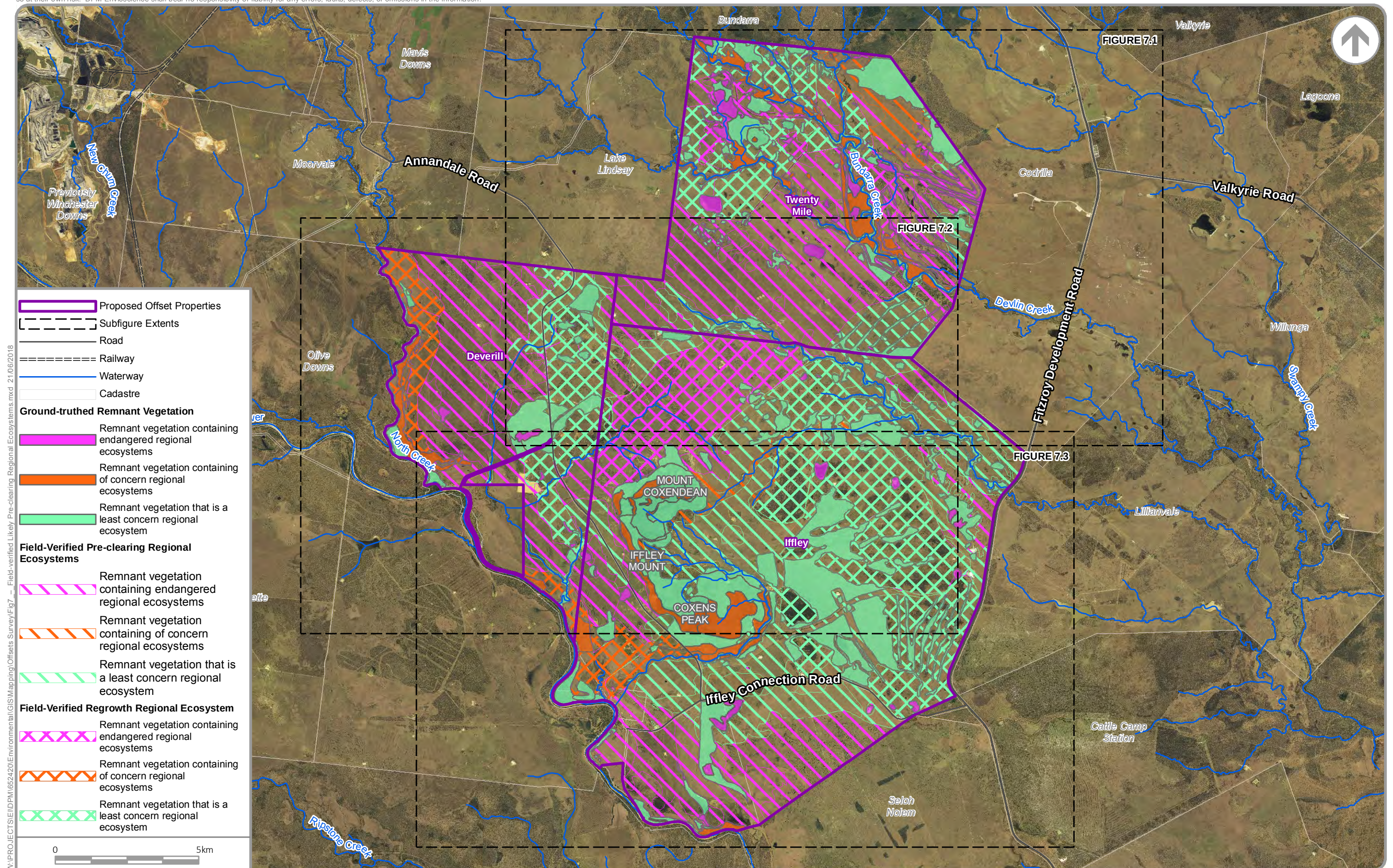
Field verified pre-clearing RE mapping has been developed for the Study area by integrating field-data on extant REs into the State's pre-clearing RE mapping. The results are very similar (Figure 8) with only small areas of difference, including:

- re-classification of wetlands in the southern half of Twenty-Mile as Endangered RE 11.5.17 (previously Least Concern RE 11.3.27b);
- the classification of a large wetland in the south and one in the north of Iffley as Endangered RE 11.5.17 (previously Of Concern RE 11.3.27/b); and
- identification of the north-east corner of Iffley as Least Concern RE 11.5.3 (previously Endangered RE 11.4.9).

4.1.3 Regional Ecosystems

Existing RE mapping (Version 10.1, DES 2018b) suggests that approximately 6,635 ha of the Study area is remnant (regulated) vegetation. The DES (2018b) RE mapping is shown in Figure 4 and has been mapped using VM status, relevant under the *Vegetation Management Act 1999* (VM Act). Field-verified RE mapping undertaken by DPM Envirosciences following the March 2018 fieldwork demonstrates that approximately 7,224 ha of the Study area is remnant vegetation (Table 5) (Figure 9). The difference in area comprises various minor realignments of mapped remnant vegetation, as well as the mapping of REs that were unmapped in the State mapping, including two large patches of RE 11.5.9 in the north-eastern extent of Twenty-Mile, and a patch of RE 11.4.9 on Deverill (Figure 10). Another component of the differences in mapping is due to the ability of the field surveys to separate mixed vegetation polygons into separate units.

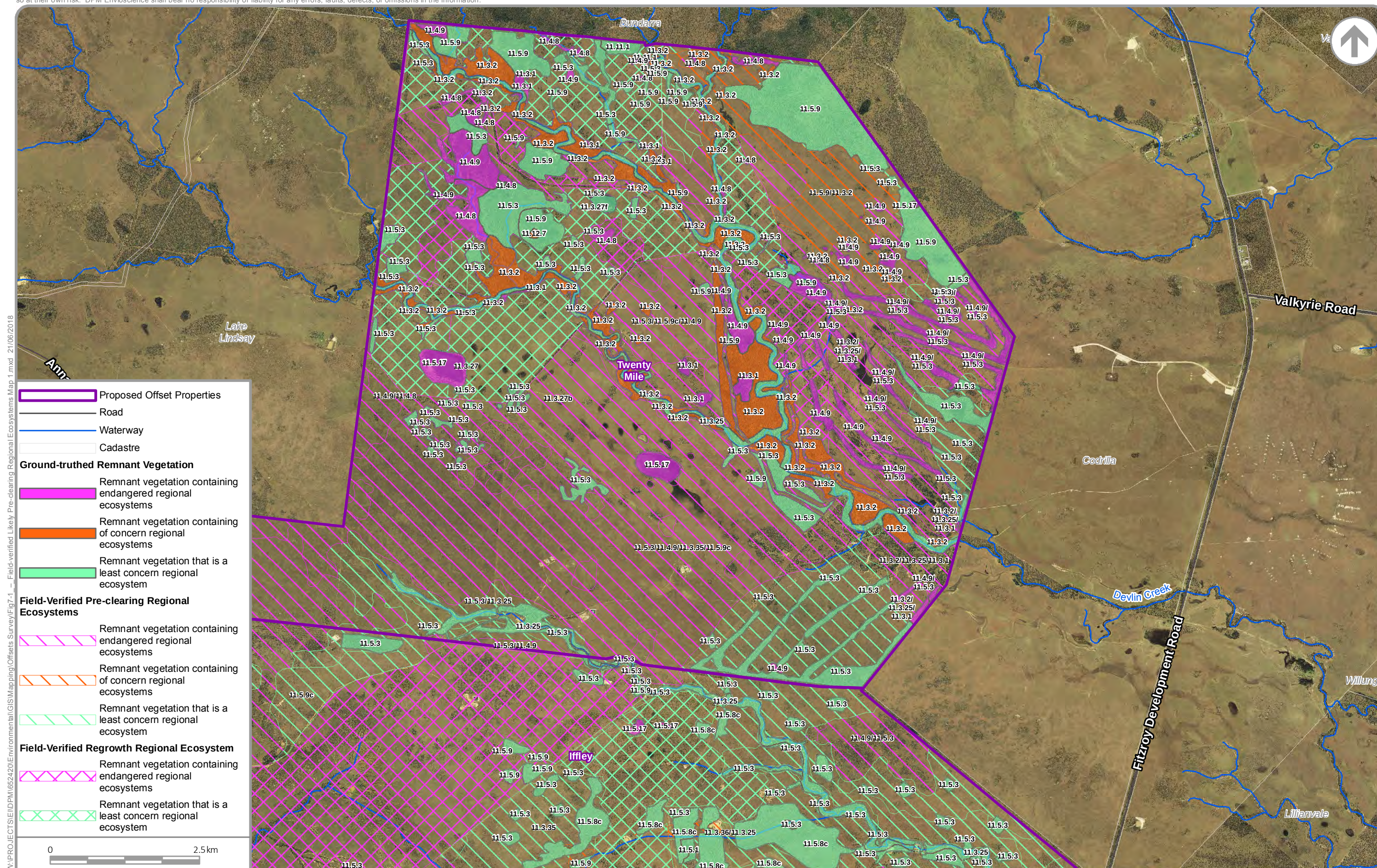
BioCondition assessments were undertaken in 23 remnant RE sites across the Study area deemed by desktop assessment as being potentially valuable as offsets for Stage One of the Olive Downs Coking Coal Project. The measured and weighted terrestrial habitat quality scores (that compare the assessment site to a State benchmark) for those REs relevant to Stage One of the Olive Downs Coking Coal Project offset requirements are shown in Table 5.



FIELD-VERIFIED LIKELY PRE-CLEARING REGIONAL ECOSYSTEMS

Olive Downs Offset Surveys

FIGURE 7



FIELD-VERIFIED LIKELY PRE-CLEARING REGIONAL ECOSYSTEMS – MAP 1

Olive Downs Offset Surveys

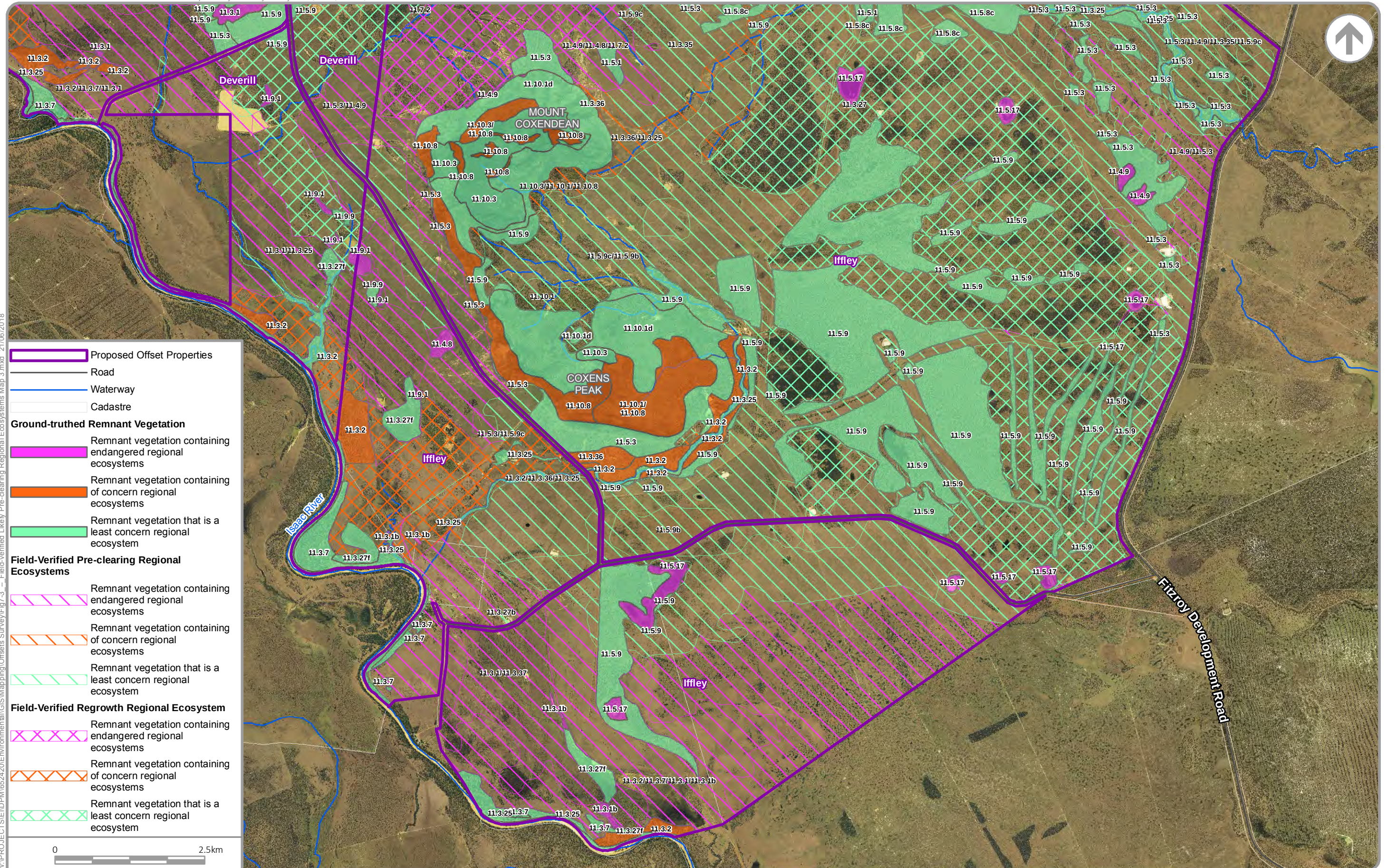
FIGURE 7.1

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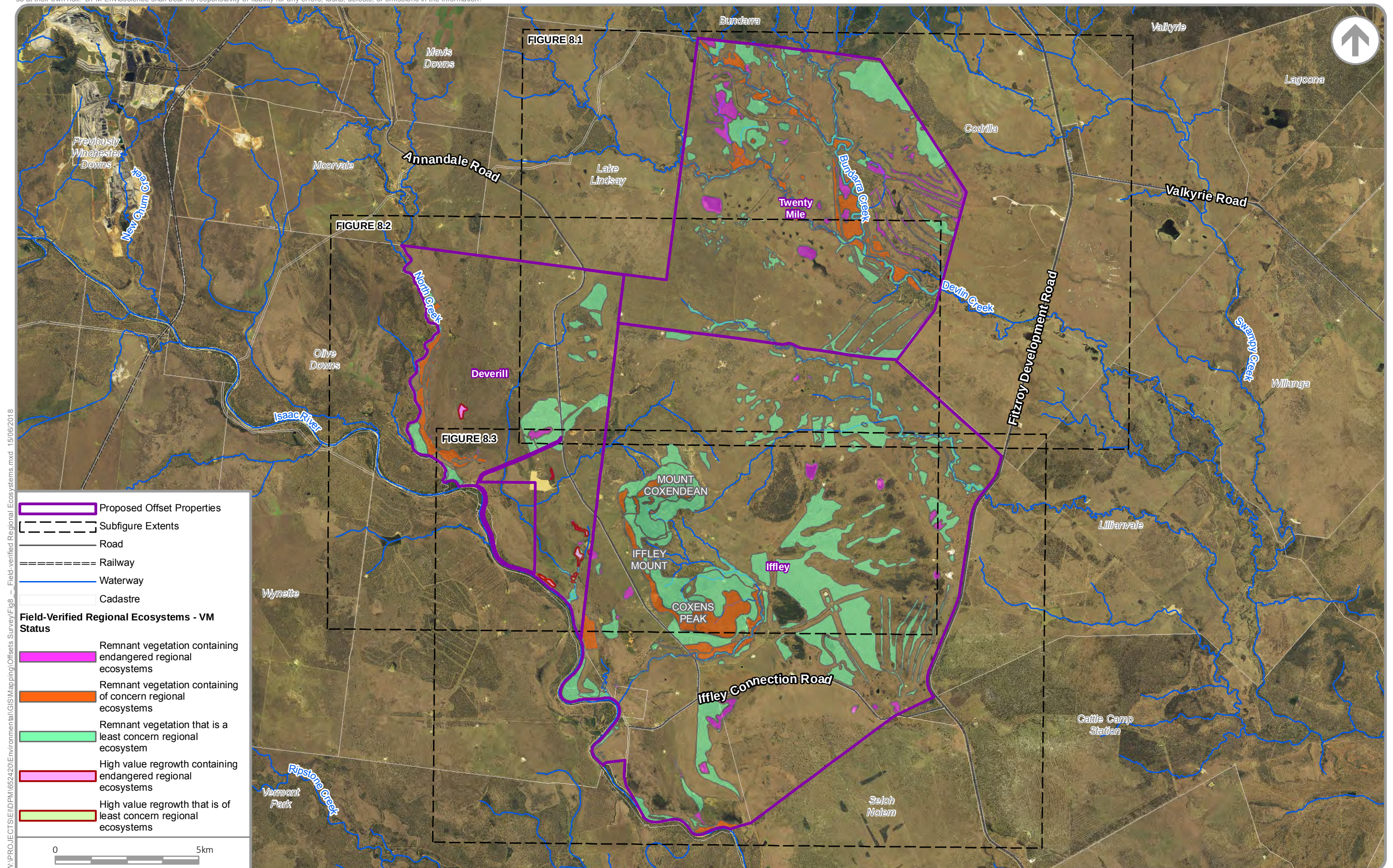
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FIELD-VERIFIED LIKELY PRE-CLEARING REGIONAL ECOSYSTEMS – MAP 3

Olive Downs Offset Surveys

FIGURE 7.3

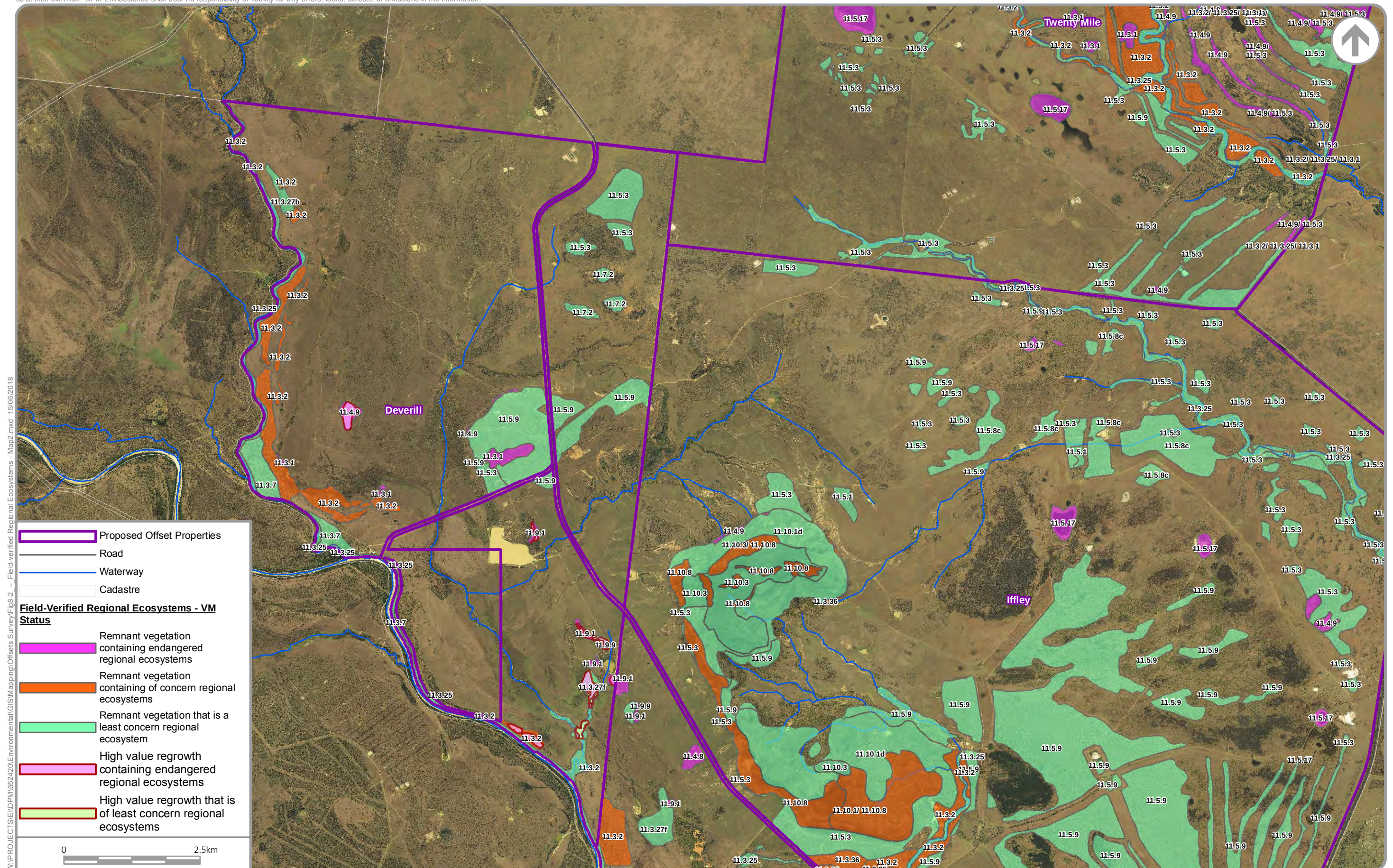


W:\PROJECTS\IDPM\652420\Environmental\GIS\Mapping\Offsets Survey\Fig8 - Field-verified Regional Ecosystems.mxd 15/06/2018



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W:\PROJECTS\IDPM\652420\Environmental\GIS\Mapping\Offsets Survey\Fig8.2 - Field-verified Regional Ecosystems - Map2.mxd 15/06/2018

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Table 5 Field-verified Regional Ecosystems of the Study area

RE	VM Act status	Description	Twenty-Mile (ha)	Iffley (ha)	Deverill (ha)	Total Area (ha)	Terrestrial habitat quality sites	Average habitat quality score (out of 10)	Size weighting	Area weighted score
11.3.1/b	E	Brigalow (<i>Acacia harpophylla</i>) and / or belah (<i>Casuarina cristata</i>) open forest on alluvial plains.	30.2	13.1	22.6	65.9	3.1BC01	6	0.002	0.012
11.3.2	OC	Poplar box (<i>Eucalyptus populnea</i>) woodland on alluvial plains.	501.2	167.1	174.9	843.2	3.2BC01-2	7	0.03	0.19
11.3.7	LC	<i>Corymbia</i> spp. woodland on alluvial plains.	-	114.4	65.9	180.3	Data not required for this study, but may be a useful future offset where in association with a waterway, koala or glider habitat.			
11.3.25	LC	Queensland blue gum (<i>Eucalyptus tereticornis</i>) or river red gum (<i>E. camaldulensis</i>) woodland fringing drainage lines.	219.1	222.6	118.0	559.7	3.25BC01-6	7	0.018	0.122
11.3.27b	LC	Vegetation ranges from open water +/- aquatics and emergents such as <i>Potamogeton crispus</i> , <i>Myriophyllum verrucosum</i> , <i>Chara</i> spp., <i>Nitella</i> spp. <i>Nymphaea violacea</i> , <i>Ottelia ovalifolia</i> , <i>Nymphoides indica</i> , <i>N. crenata</i> , <i>Potamogeton tricaratus</i> , <i>Cyperus difformis</i> , <i>Vallisneria caulescens</i> and <i>Hydrilla verticillata</i> . Often with fringing woodland, commonly <i>Eucalyptus camaldulensis</i> or <i>E. coolabah</i> but also a wide range of other species including <i>Eucalyptus platyphylla</i> , <i>E. tereticornis</i> , <i>Melaleuca</i> spp., <i>Acacia holosericea</i> or other <i>Acacia</i> spp. Occurs on billabongs. Lacustrine wetland (e.g. lake).	-	-	13.4	13.4	Data not required for this study but may be a useful future offset where in association with a waterway, koala or glider habitat.			
11.3.27f	LC	Palustrine wetland, coolabah (<i>Eucalyptus coolabah</i>) and / or Queensland blue gum (<i>E. tereticornis</i>) open woodland to woodland fringing swamps.	10.0	97.6	13.7	121.3	3.27BC01-3, HESBC01	7	0.003	0.025
11.3.36	OC	Narrow-leaved ironbark (<i>Eucalyptus crebra</i>) and/or poplar box (<i>E. populnea</i>) and/or silver-leaved ironbark (<i>E. melanophloia</i>) on alluvial plains. Higher terraces.	-	28.6	-	28.6	Data not required for this study, but may be a useful future offset for Of Concern RE values.			

RE	VM Act status	Description	Twenty-Mile (ha)	Iffley (ha)	Deverill (ha)	Total Area (ha)	Terrestrial habitat quality sites	Average habitat quality score (out of 10)	Size weighting	Area weighted score
11.4.8	E	Dawson gum (<i>Eucalyptus cambageana</i>) woodland to open forest with brigalow (<i>Acacia harpophylla</i>) or blackwood (<i>A. argyrodendron</i>) on Cainozoic clay plains.	73.7	12.0	-	85.7	4.8BC01-2	6	0.002	0.015
11.4.9	E	Brigalow (<i>Acacia harpophylla</i>) shrubby woodland with yellowwood (<i>Terminalia oblongata</i>) on Cainozoic clay plains.	152.3	19.3	15.5	187.1	4.9BC01-6	6	0.008	0.052
11.5.1	LC	Narrow-leaved ironbark (<i>Eucalyptus crebra</i>) and/or poplar box (<i>E. populnea</i>), white cypress (<i>Callitris glaucophylla</i>), broad-leaved apple (<i>Angophora leiocarpa</i>), bull oak (<i>Allocasuarina luehmannii</i>) woodland on Cainozoic sand plains and/or remnant surfaces.	-	19.4	-	19.4	Data not required for this study, but may be a useful future offset where in association with koala or glider habitat.			
11.5.3	LC	Poplar box (<i>Eucalyptus populnea</i>) +/- silver-leaved ironbark (<i>E. melanophloia</i>) +/- Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) woodland on Cainozoic sand plains and / or remnant surfaces.	414.7	505.3	102.1	1022.1	5.3BC01	8	0.035	0.028
11.5.8c	LC	Poplar gum (<i>Eucalyptus platyphylla</i>) woodland on white-yellow weathered sands, with grassy ground layer. Occurs on Quaternary sediments.	-	259.8	-	259.8	Data not required for this study, but may be a useful future offset where in association with a waterway, koala or glider habitat.			
11.5.9	LC	Narrow-leaved ironbark (<i>Eucalyptus crebra</i>) and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces.	451.5	1725.1	258.7	2435.3	Data not required for this study, but may be a useful future offset where in association with a waterway, koala or glider habitat.			
11.5.17	E	Palustrine swamp with fringing Queensland blue gum (<i>Eucalyptus tereticornis</i>) woodland in depressions on Cainozoic sand plains and remnant surfaces.	63.9	111.7	-	175.6	5.17BC01-4, HESBC02	6	0.005	0.031
11.7.2	LC	<i>Acacia</i> spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone.	-	-	24.2	24.2				
11.9.1	E	Brigalow (<i>Acacia harpophylla</i>) – Dawson gum (<i>Eucalyptus cambageana</i>) woodland to open forest on fine-grained sedimentary rocks.	-	11.4	14.3	25.7	Not required for Stage One assessment, but maybe useful future offset for Endangered RE values.			

RE	VM Act status	Description	Twenty-Mile (ha)	Iffley (ha)	Deverill (ha)	Total Area (ha)	Terrestrial habitat quality sites	Average habitat quality score (out of 10)	Size weighting	Area weighted score
11.9.9	LC	Narrow-leaved ironbark (<i>Eucalyptus crebra</i>) grassy woodland. Gum-topped box (<i>Eucalyptus moluccana</i>) sometimes conspicuous on lower slopes.	-	6.0	3.5	9.5				
11.10.1d	LC	Narrow-leaved ironbark (<i>Eucalyptus crebra</i>) woodland.	-	705.2	-	705.2	Not required for Stage One assessment, but maybe useful future offset where in association with koala or glider habitat.			
11.10.3	LC	Bendee (<i>Acacia catenulata</i>) or Shirley wattle (<i>A. shirleyi</i>) open forest on coarse-grained sedimentary rocks. Crest and scarps.	-	211.9	-	211.9				
11.10.8	OC	Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks.	-	235.4	-	235.4				
11.11.1	LC	Narrow-leaved ironbark (<i>Eucalyptus crebra</i>) +/- Ringy rosewood (<i>Acacia rhodoxylon</i>) woodland on old sedimentary rocks with varying degrees of metamorphism and folding.	12.3	-	-	12.3	Not required for Stage One assessment, but maybe useful future offset where in association with koala or glider habitat.			
11.12.7	LC	Narrow-leaved ironbark (<i>Eucalyptus crebra</i>) woodland with patches of semi-evergreen vine thicket on igneous rocks (boulder-strewn hillsides).	2.0	-	-	2.0	Not required for Stage One assessment, but maybe useful future offset where in association with koala or glider habitat.			
TOTAL			1931.6	4465.9	826.8	7224.3				

Notes:

E = Endangered; OC = Of Concern; NCP = No Concern at Present; LC = Least Concern.

There is also a large area of remnant vegetation (1,256.7 ha) that is not mapped as a regional ecosystem in the State's RE mapping (version 10.1) or in regulated vegetation mapping (DES 2018b), but has been ground-truthed to be remnant RE (Figure 10). These areas can be used as offsets. A summary of these areas is shown in Table 6.

Table 6 Field-verified Regional Ecosystems not mapped as regulated vegetation

RE	VM Status	Total Area (ha)
11.10.1d	LC	1.6
11.11.1	LC	1.2
11.3.1	E	3.1
11.3.1b	E	7.1
11.3.2	OC	147.1
11.3.25	LC	59.0
11.3.27f	LC	89.7
11.3.7	LC	9.2
11.4.8	E	19.3
11.4.9	E	33.5
11.5.1	LC	19.4
11.5.17	E	128.3
11.5.3	LC	252.1
11.5.8c	LC	85.6
11.5.9	LC	357.6
11.7.2	LC	15.7
11.9.1	E	20.3
11.9.9	LC	6.7
Total		1,256.7

The remnant vegetation of the Study area (based on the field-verified RE mapping) includes the following six BVGs (BVGs 1:5 million), represented by 23 REs (in order of prevalence within the Study area):

- BVG 5 – Eucalypt dry woodlands on inland depositional plains;
- BVG 3 - Eucalypt woodlands to open forests;
- BVG 10 – Acacia dominated open forests, woodlands and shrublands;
- BVG 4 – Eucalypt open forests to woodlands on floodplains;
- BVG 15 – Wetlands; and
- BVG 1 – Rainforests, scrubs.

BVG 5: Eucalypt dry woodlands on inland depositional plains

The most prevalent BVG of the Study area comprises eucalypt dry woodlands on inland depositional plains (BVG 5) (4,608.4 ha), which includes the following REs:

- 11.3.2 – Poplar box (*Eucalyptus populnea*) woodland to open woodland on alluvial plains (Plate 1);
- 11.3.36 – Narrow-leaved ironbark (*Eucalyptus crebra*) and/or poplar box (*E. populnea*) and/or silver-leaved ironbark (*E. melanophloia*) on alluvial plains. Higher terraces;
- 11.5.1 – Narrow-leaved ironbark (*Eucalyptus crebra*) and/or poplar box (*E. populnea*), white cypress (*Callitris glaucophylla*), broad-leaved apple (*Angophora leiocarpa*), bull oak (*Allocasuarina luehmannii*) woodland on Cainozoic sand plains and/or remnant surfaces;
- 11.5.3 – Poplar box (*E. populnea*) +/- silver-leaved ironbark (*E. melanophloia*) +/- Clarkson's bloodwood (*C. clarksoniana*) woodland on Cainozoic sand plains and / or remnant surfaces;
- 11.5.8c – Poplar gum (*E. platyphylla*) woodland on white-yellow weathered sands, with grassy ground layer. Occurs on Quaternary sediments; and
- 11.5.9 – Narrow-leaved ironbark (*E. crebra*) and other *Eucalyptus* spp. and *Corymbia* spp. woodland on Cainozoic sand plains and / or remnant surfaces.



Plate 1 Poplar box (*Eucalyptus populnea*) woodland to open woodland on alluvial plains (RE 11.3.2) on Twenty-Mile, March 2018

BVG 4: Eucalypt open forests to woodlands on floodplains

Eucalypt open forests to woodland on floodplains (BVG 4) form the riparian corridor of the Isaac River, parts of North Creek and other waterways (559.7 ha) (Figure 13), and comprise the following REs within the Study area:

- 11.3.25 – Queensland blue gum (*E. tereticornis*) and / or river red gum (*E. camaldulensis*) open forest to woodland fringing drainage lines (Plate 2). This RE is also a riverine wetland mapped on the Vegetation Management Wetlands Map v2.48 (DSITI 2017a).



Plate 2 Queensland blue gum (*Eucalyptus tereticornis*) and / or River Red Gum (*E. Camaldulensis*) open forest to woodland fringing drainage lines (RE 11.3.25) on Twenty Mile, March 2018

BVG 3: Eucalypt woodlands to open forests

The eucalypt woodlands to open forests (BVG 3) are primarily located around Mount Coxen and west to the Isaac River (land zones 9 and 10), with some small patches in the northern parts of Twenty-Mile (land zones 11 and 12) (909.3 ha) (Figure 13). This BVG is represented by the following REs within the Study area:

- 11.3.7 – *Corymbia* spp woodland on alluvial plains;
- 11.9.9 – Narrow-leaved ironbark (*Eucalyptus crebra*) grassy woodland. Gum-topped box (*E. moluccana*) sometimes conspicuous on lower slopes;
- 11.10.1d – Narrow-leaved ironbark (*Eucalyptus crebra*) woodland (Plate 3);
- 11.11.1 – Narrow-leaved ironbark (*Eucalyptus crebra*) +/- Ringy rosewood (*Acacia rhodoxylon*) woodland on old sedimentary rocks with varying degrees of metamorphism and folding; and
- 11.12.7 – Narrow-leaved ironbark (*Eucalyptus crebra*) woodland with patches of semi-evergreen vine thicket on igneous rocks (boulder-strewn hillsides).



Plate 3 Narrow-leaved ironbark (*Eucalyptus crebra*) woodland (RE 11.10.1d) on Iffley, March 2018

BVG 10: Other acacia dominated open forests, woodlands and shrublands

Much of the acacia dominated open forests, woodlands and shrublands (BVG 10) (601.2 ha) of the Study area have been cleared to make way for agricultural grasslands. REs constituting this BVG within the Study area include:

- 11.3.1 – Brigalow (*Acacia harpophylla*) and / or belah (*Casuarina cristata*) open forest on alluvial plains;
- 11.3.1b – Open forest dominated by brigalow (*Acacia harpophylla*) and/or belah (*Casuarina cristata*) (particularly in southern parts), generally with scattered emergent *Eucalyptus* spp;
- 11.4.8 – Dawson gum (*Eucalyptus cambageana*) woodland to open forest with brigalow (*Acacia harpophylla*) or blackwood (*A. argyrodendron*) on Cainozoic clay plains;
- 11.4.9 – Brigalow (*Acacia harpophylla*) shrubby woodland to open forest with yellowwood (*Terminalia oblongata*) on Cainozoic clay plains;
- 11.7.2 – *Acacia* spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone;
- 11.9.1 – Open forest to woodland of Dawson's (*Eucalyptus cambageana*) or Thozet's box (*E. thozetiana*) and brigalow (*Acacia harpophylla*) (Plate 4); and
- 11.10.3 – Bendee (*Acacia catenulata*) or Shirley wattle (*A. shirleyi*) open forest on coarse-grained sedimentary rocks. Crests and scarps.



Plate 4 Brigalow (*Acacia harpophylla*) – Dawson gum (*Eucalyptus cambageana*) woodland to open forest on fine-grained sedimentary rocks (RE 11.9.1) on Deverill, March 2018

BVG 15: Wetlands (swamps and lakes)

The wetlands (BVG 15) of the Study area (310.5 ha) include the following REs:

- 11.3.27f – Coolibah (*Eucalyptus coolibah*) and / or Queensland blue gum (*E. tereticornis*) open woodland to woodland fringing swamps (Plate 5); and
- 11.5.17 – Queensland blue gum (*Eucalyptus tereticornis*) woodland in depression on Cainozoic sand plains and remnant surfaces.



Plate 5 Palustrine wetland (RE 11.3.27f) on Twenty-Mile, March 2018

BVG 1: Rainforests and scrubs

The heaths of the Study area (BVG 1) are located only in one small area on Mount Coxendean, Iffley Mount and Coxens Peak (235.4 ha) and comprise the following RE:

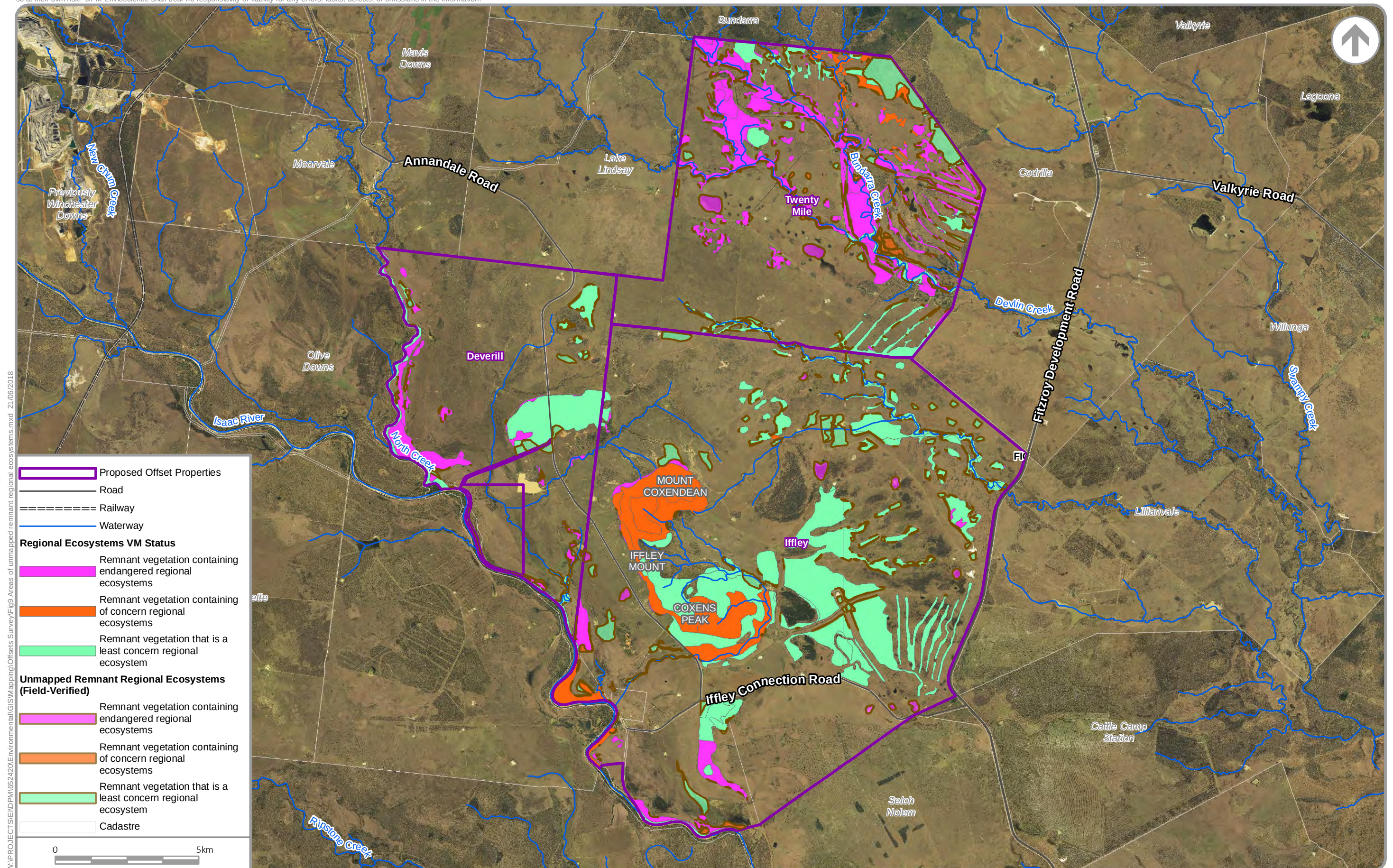
- 11.10.8 – Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks (Plate 6).



Plate 6 Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks (RE 11.10.8) on Iffley, March 2018

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AREAS OF UNMAPPED REMNANT REGIONAL ECOSYSTEMS

Olive Downs Offset Surveys

FIGURE 9

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W:\PROJECTS\IDPM\652420\Environmental\GIS\Mapping\Offsets Survey\Fig10 - Field-verified Threatened Ecological Communities.mxd 15/06/2018

4.1.4 Threatened Ecological Communities

The desktop assessment identified the potential occurrence of two TECs within the Study area. Each are listed as Endangered under the EPBC Act. These communities are identified in Table 7. Field investigations indicated that only one of these TEC occurs in the Study area (totalling 91.6 ha) (Figure 11). Patches of regrowth vegetation within the Study area were also assessed to determine whether they meet the criteria to be mapped as Brigalow TEC (Section 3.4.4) (DotE, 2013b). No patches of regrowth vegetation were determined to meet these criteria as the trees were too small to have been more than 15 years old and the understory vegetation was dominated by weeds (i.e. buffel grass).

Table 7 Threatened Ecological Communities identified as potentially occurring within the Study area

Threatened Ecological Community	Status (EPBC Act)	Desktop search results	Field survey findings
Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant)	E	Likely	Twenty-Mile: four patches of RE 11.4.9 (approximately 2 ha, 7.5 ha, 5.3 ha and 19 ha), one patch of RE 11.3.1 (approximately 10 ha) and three patches of RE 11.4.8 (approximately 3.3 ha, 3.4 ha and 7 ha). Deverill: one patch of RE 11.3.1 (approximately 18.9 ha) Iffley: two patches of RE 11.4.9 (approximately 7.2 ha and 8 ha).
Natural Grasslands of the Queensland Central Highlands and the Northern Fitzroy Basin	E	Possible	This community was not observed within the Study area.

Notes:

E = Endangered.

4.1.5 Other vegetation

Approximately 23,971 ha of land within the Study area is not associated with any regulated vegetation. The majority of this area has been classified in this report as 'agricultural grasslands dominated by buffel grass (*Cenchrus ciliaris*)' (14,701 ha) and is the area not mapped as remnant vegetation in Figure 12. However, a portion of this area is affected by regrowth native vegetation of varying ages and quality (approximately 9,270 ha). Field investigations were undertaken to identify the vegetation communities within significant patches of regrowth and to create a regrowth map (Figure 12) that will assist to identify areas of use for potential offsets for regulated vegetation cleared by the Olive Downs Coking Coal Project. A summary of the regrowth areas available for offset is presented in Table 8.

Areas of regrowth mapped by DPM Envirosciences comprised those areas where regeneration of woodland would be expected to reach species composition, height and cover characteristics of remnant vegetation in a period of no greater than 20 years. It was noted that all areas of regrowth had high levels of weediness, and would benefit from management.

Terrestrial habitat quality assessments were undertaken in 17 regrowth RE sites across the Study area deemed by desktop assessment to be potentially valuable as offsets for Stage One of the Olive Downs Coking Coal Project, primarily for the purposes of improving connectivity.

The measured and weighted terrestrial habitat quality assessment scores (that compare the assessment site to a State benchmark) for those regrowth REs relevant to Stage One of the Olive Downs Coking Coal Project are shown in Table 8.



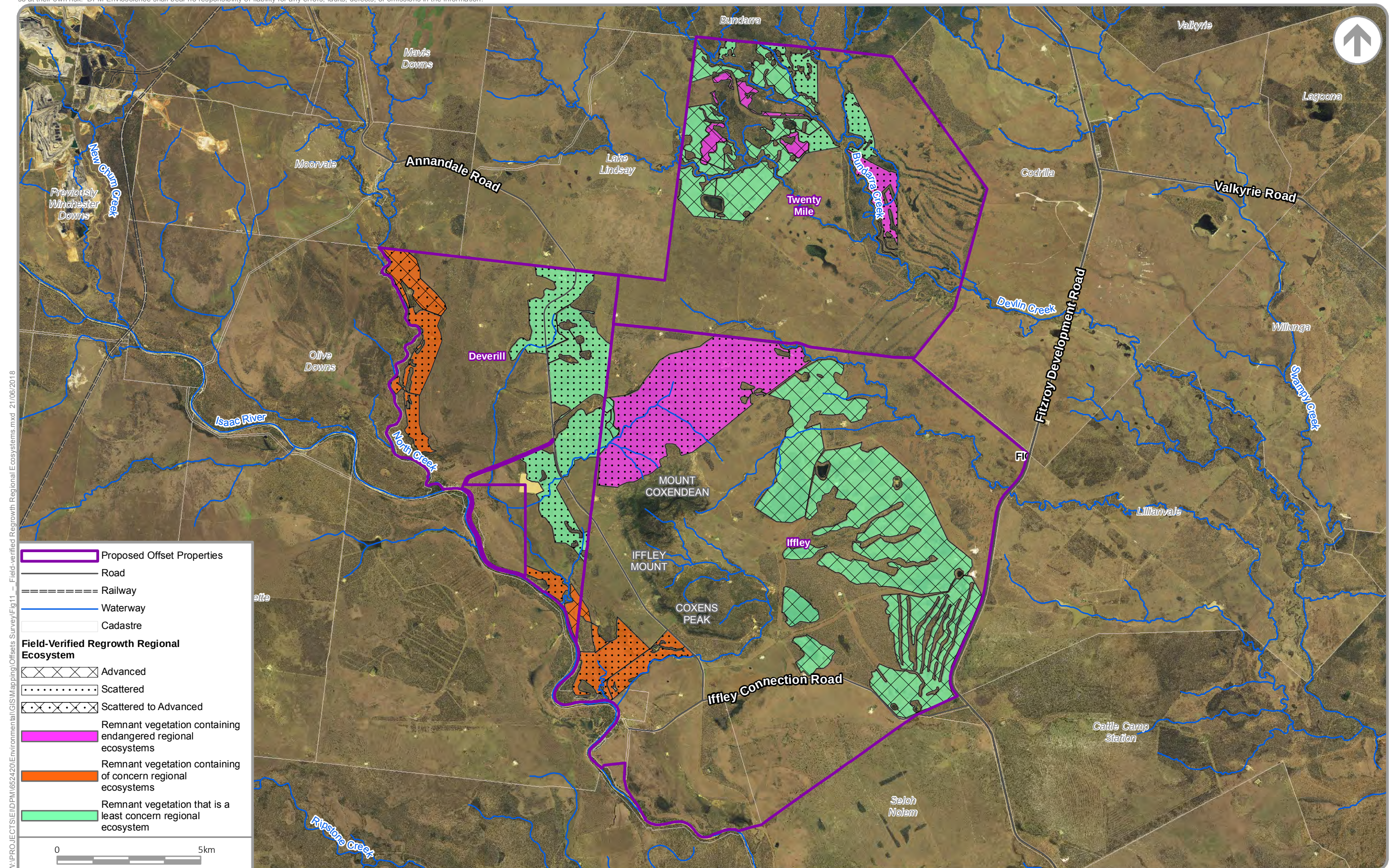
Plate 7 Typical area of advanced brigalow (*Acacia harpophylla*) and Dawson's gum (*Eucalyptus cambageana*) (RE 11.9.1) regrowth



Plate 8 Typical area of woodland regrowth (RE 11.5.3)

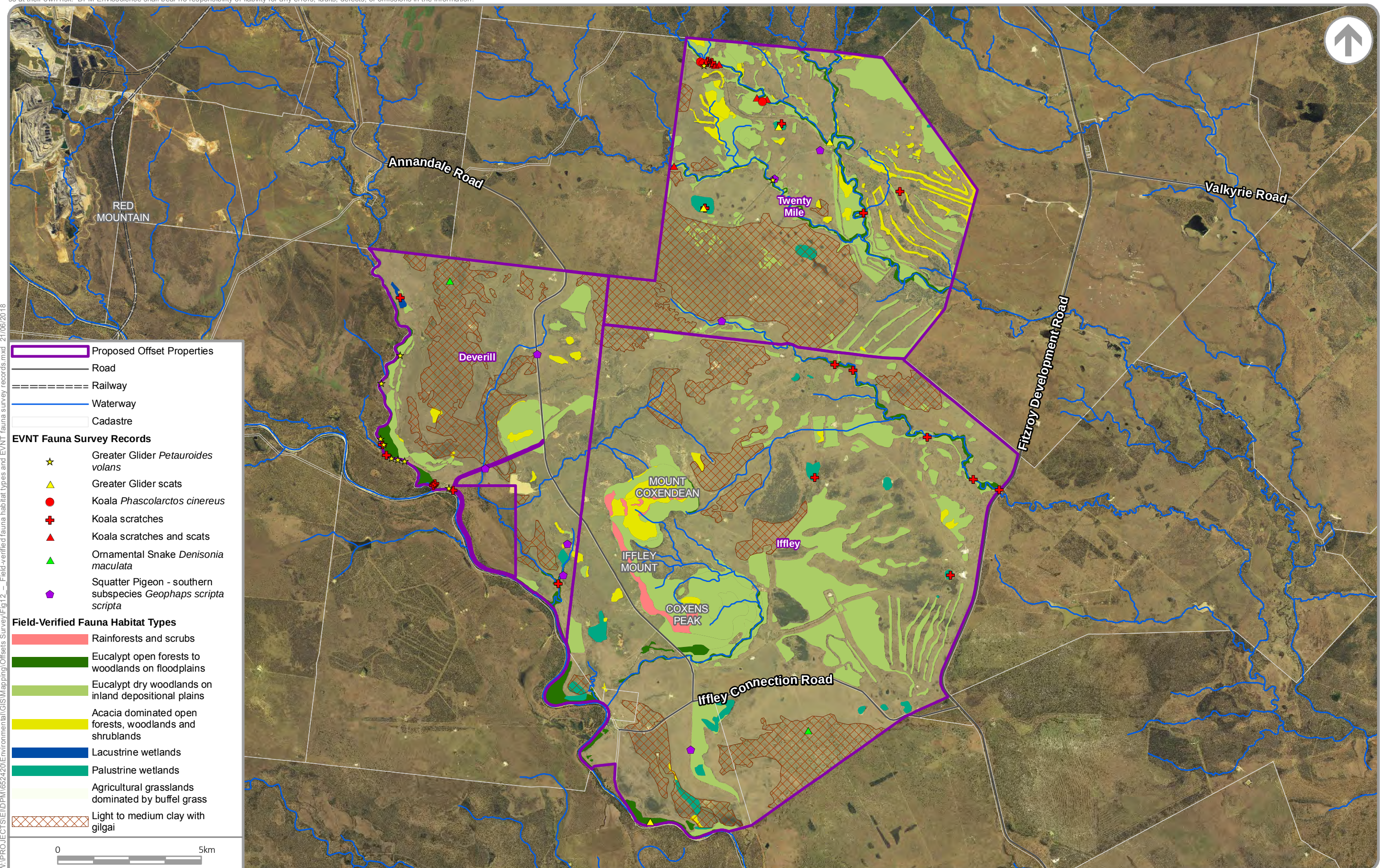
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W:\PROJECTS\I\DP\652420\Environmental\GIS\Mapping\Offsets Survey\Fig11 - Field-verified Regrowth Regional Ecosystems.mxd 21/06/2018

W:\PROJECTS\IENDPM\652420\Environmental\GIS\Mapping\Offsets Survey\Fig12 - Field-verified fauna habitat types and EVNT fauna survey records.mxd 21/06/2018



FIELD-VERIFIED FAUNA HABITAT TYPES AND EVNT FAUNA SURVEY RECORDS

Olive Downs Offset Surveys

FIGURE 12

Table 8 Field-verified regrowth REs within the Study area

RE	VM Act status	Description	Twenty-Mile (ha)	Iffley (ha)	Deverill (ha)	Total Area (ha)	Terrestrial habitat quality site	Average habitat quality score (out of 10)	Size weighting	Area weighted score
11.3.1	E	Brigalow (<i>Acacia harpophylla</i>) and / or belah (<i>Casuarina cristata</i>) open forest on alluvial plains.	-	-	92.6	92.6	OSBC01-5	6	0.003	0.018
11.3.2	OC	Poplar box (<i>Eucalyptus populnea</i>) woodland on alluvial plains.	-	43.5	530.1	573.6	Data not required for this study, but may be a useful future offset for Of Concern RE, connectivity, koala or glider habitat.			
11.3.2/11.5.3	OC/LC	Poplar box (<i>Eucalyptus populnea</i>) woodland on alluvial plains; and Poplar box (<i>E. populnea</i>) +/- silver-leaved ironbark (<i>E. melanophloia</i>) +/- Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) woodland on Cainozoic sand plains and / or remnant surfaces.	-	157.5	-	157.5	Data not required for this study, but may be a useful future offset for Of Concern RE, connectivity, koala or glider habitat.			
11.3.2/11.7.2	OC/LC	Poplar box (<i>Eucalyptus populnea</i>) woodland on alluvial plains; and <i>Acacia</i> spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone.	-	273.6	-	273.6	Data not required for this study, but may be a useful future offset for Of Concern RE, connectivity, koala or glider habitat.			
11.4.8	E	Dawson gum (<i>Eucalyptus cambageana</i>) woodland to open forest with brigalow (<i>Acacia harpophylla</i>) or blackwood (<i>A. argyrodendron</i>) on Cainozoic clay plains.	359.3	-	-	359.3	ConBC02, ConBC04, ConBC10	6	0.011	0.066

RE	VM Act status	Description	Twenty-Mile (ha)	Iffley (ha)	Deverill (ha)	Total Area (ha)	Terrestrial habitat quality site	Average habitat quality score (out of 10)	Size weighting	Area weighted score
11.4.9	E	Brigalow (<i>Acacia harpophylla</i>) shrubby woodland with yellowwood (<i>Terminalia oblongata</i>) on Cainozoic clay plains.	4.6	-	-	4.6	OSBC06-8	5	0.00001	0.00006
11.4.9/11.5.3	E/LC	Brigalow (<i>Acacia harpophylla</i>) shrubby woodland with yellowwood (<i>Terminalia oblongata</i>) on Cainozoic clay plains; and Poplar box (<i>Eucalyptus populnea</i>) +/- silver-leaved ironbark (<i>E. melanophloia</i>) +/- Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) woodland on Cainozoic sand plains and / or remnant surfaces.	-	1,711.5	-	1,711.5	Data not required for this study, but may be a useful future offset for Endangered RE, connectivity, koala or glider habitat.			
11.5.3	LC	Poplar box (<i>Eucalyptus populnea</i>) +/- silver-leaved ironbark (<i>E. melanophloia</i>) +/- Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) woodland on Cainozoic sand plains and / or remnant surfaces.	802.6	-	332.3	1,134.9	ConBC01, ConBC03, ConBC05-9	5	0.03	0.17

RE	VM Act status	Description	Twenty-Mile (ha)	Iffley (ha)	Deverill (ha)	Total Area (ha)	Terrestrial habitat quality site	Average habitat quality score (out of 10)	Size weighting	Area weighted score
11.5.3/11.3.2	OC sub-dominant	Poplar box (<i>Eucalyptus populnea</i>) +/- silver-leaved ironbark (<i>E. melanophloia</i>) +/- Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) woodland on Cainozoic sand plains and / or remnant surfaces; and Poplar box (<i>Eucalyptus populnea</i>) woodland on alluvial plains.	251.4	-	-	251.4	Data not required for this study, but may be a useful future offset for Of Concern RE, connectivity, koala or glider habitat.			
11.5.3/11.4.8	E sub-dominant	Poplar box (<i>Eucalyptus populnea</i>) +/- silver-leaved ironbark (<i>E. melanophloia</i>) +/- Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) woodland on Cainozoic sand plains and / or remnant surfaces; and Dawson gum (<i>E. cambageana</i>) woodland to open forest with brigalow (<i>Acacia harpophylla</i>) or blackwood (<i>A. argyrodendron</i>) on Cainozoic clay plains.	483.5	-	247.9	731.4	Data not required for this study, but may be a useful future offset for Endangered RE, connectivity, koala or glider habitat.			
11.5.9	LC	Narrow-leaved ironbark (<i>Eucalyptus crebra</i>) and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces.	21.7	3,399.2	527.7	3,948.6	Data not required for this study, but may be a useful future offset for connectivity, koala or glider habitat.			

RE	VM Act status	Description	Twenty-Mile (ha)	Iffley (ha)	Deverill (ha)	Total Area (ha)	Terrestrial habitat quality site	Average habitat quality score (out of 10)	Size weighting	Area weighted score
11.7.2	LC	<i>Acacia spp.</i> woodland on Cainozoic lateritic duricrust. Scarp retreat zone.	-	30.3	-	30.3				
TOTAL			1,923.1	5,615.6	1,730.6	9,269.3				

Notes:

E = Endangered; OC = Of Concern; LC = Least Concern.

4.2 Flora species

4.2.1 EVNT species

One EVNT flora species was detected during the autumn 2018 surveys, namely *Solanum elaeagnifolium*, detected at site 4.9BC06 on the Deverill property (Figure 9).

4.2.2 Priority species

Priority species are those listed as such in the Back on Track Actions for Biodiversity for the Fitzroy NRM Region (DERM 2010) or in the Expert Panel Reports of the Aquatic Conservation Assessments for riverine and non-riverine wetlands of the Fitzroy section of the Great Barrier Reef (GBR) catchment (Inglis and Howell 2009; Rollason and Howell 2012). Two Priority aquatic flora species were detected:

- tall flatsedge (*Cyperus exaltatus*); and
- water chestnut (*Eleocharis blakeana*).

4.2.3 Special Least Concern species

SLC species are defined in schedule 3A of the *Nature Conservation (Wildlife Management) Regulation 2006*. SLC flora are afforded some protection to manage their harvest and commercial trade. Five SLC flora species (including species of SLC families) were recorded from the Study area during the field surveys, comprising:

- darling lily (*Crinum flaccidum*) – family Amaryllidaceae;
- black orchid (*Cymbidium canaliculatum*) – family Orchidaceae;
- sandalwood (*Santalum lanceolatum*);
- *Stylidium eriorhizum* – family Stylidiaceae;
- Australian bluebell (*Wahlenbergia gracilis*) – family Campanulaceae.

Some of these species are widespread across the Study area and in the greater region, particularly Australian bluebell. The SLC status is not a reflection of rarity, but rather the commercial value of these species in the nursery trade or agriculturally.

4.2.4 Least Concern species

A total of 305 Least Concern flora species were recorded from the Study area during the autumn 2018 surveys. These species are identified in Appendix F.

4.2.5 Introduced species

A total of 68 introduced plant species were recorded from the Study area. Eleven of these are category 3 restricted matter species listed under the *Queensland Biosecurity Act 2014*, including ten that are also listed WoNS (Table). Category 3 restricted matter weed species must not be distributed; meaning that they must not be given as a gift, sold, traded or released into the environment unless the distribution or disposal is authorised under a regulation or under a permit. However, unlike category 1 and 2 prohibited matter species, there is no requirement to notify Biosecurity Queensland of their occurrence.

The key weeds from a management perspective are Lantana (*Lantana camara*) and, to a lesser extent, creeping lantana (*Lantana montevidensis*). Lantana is a serious problem in most of the riparian vegetation communities (particularly RE 11.3.25) and its removal would make a significant improvement to koala and squatter pigeon habitat and possibly greater glider habitat.

Parkinsonia (*Parkinsonia aculeata*) is a problem on some of the RE 11.3.25f wetlands. Parthenium (*Parthenium hysterophorus*) is noted across most sites on cracking clays.

The weed with the most impact across all the sites is buffel grass (*Cenchrus ciliaris*), which was introduced for pasture improvement for cattle grazing. It has a significant impact on the recruitment success of native plants, particularly small shrubs and ground covers (Miller et al. 2010). When the canopy in offset areas is managed to achieve higher densities, the buffel grass becomes excluded by shade. Short-term management may include heavy grazing.

Table 9 Restricted pest plants and Weeds of National Significance recorded from the Study area

Scientific name	Common name	Qld Bio Act *	National status [^]	Identified in search area	Identified in Study area
<i>Cryptostegia grandiflora</i>	Rubbervine	3	WONS	✓	✓
<i>Harrisia martinii</i>	Harrisia cactus	3		✓	✓
<i>Jatropha gossypifolia</i>	Belly-ache bush	3	WONS	✓	✓
<i>Lantana camara</i>	Lantana	3	WONS	✓	✓
<i>Lantana montevidensis</i>	Creeping lantana	3		✓	✓
<i>Opuntia stricta</i>	Common pest pear	3	WONS	✓	✓
<i>Opuntia tomentosa</i>	Velvety tree pear	3	WONS	✓	✓
<i>Parkinsonia aculeata</i>	Parkinsonia	3	WONS	✓	✓
<i>Parthenium hysterophorus</i>	Parthenium	3	WONS	✓	✓
<i>Senecio madagascariensis</i>	Fireweed	3	WONS	✓	✓
<i>Vachellia nilotica</i>	Prickly acacia	3	WONS	✓	✓

Notes:

* Restricted species under the *Queensland Biosecurity Act 2014*;

[^] Species listed as Weed of National Significance (DEE 2018c).

5 FAUNA CHARACTERISTICS OF THE STUDY AREA

5.1 Fauna habitat types

The Study area contains both remnant and regrowth forest and woodland, as well as broad open grazed grassland. It is represented by the following habitat types, which have different habitat attributes and ecological functions for native fauna:

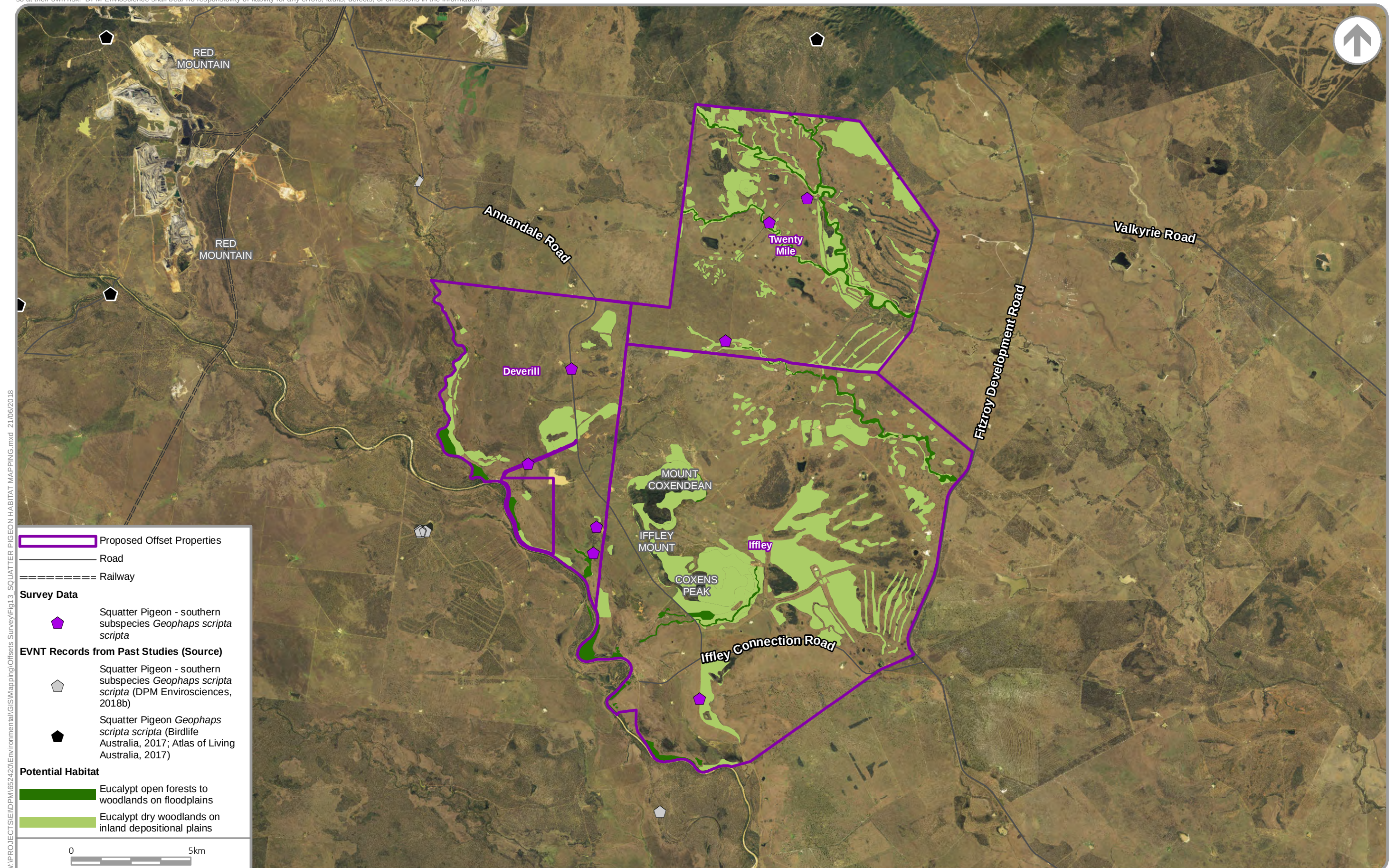
- agricultural grasslands dominated by buffel grass (*Cenchrus ciliaris*);
- eucalypt dry woodlands on inland depositional plains (BVG 3 and BVG 5);
- eucalypt open forests to woodlands on floodplains (BVG 4);
- acacia dominated open forests, woodlands and shrublands (BVG 10);
- palustrine wetlands (swamps) (primarily BVG 15);
- lacustrine wetlands (dams) (BVG 15);
- rainforests and scrubs (BVG 1); and
- waterways and lacustrine waterbodies (watercourses and drainage features).

There is approximately 14,701 ha of land in the Study area that is not associated with any remnant or regrowth native vegetation. This area has been classified as 'agricultural grasslands dominated by buffel grass (*Cenchrus ciliaris*)'. This habitat type provides little value for native fauna, with the exception of those areas affected by gilgai, which are valuable habitat areas for native frogs and their predators – particularly ornamental snake (a target EVNT species). Gilgai are repeated mounds and depressions formed on shrink-swell and cracking clay soils (or Vertosols) and where water can accumulate seasonally in the depressions to form temporary wetlands. This landform is common in the Brigalow Belt, but has been largely cleared for grazing. In the Study area gilgai also affect other habitat types, such as 'eucalypt dry woodlands on inland depositional plains' and 'acacia dominated open forests, woodlands and shrublands'.

Habitat types associated with a broad vegetation group (BVG) are described in Section 4.1.3. All other habitat types are described below. Habitat mapping for the Study area appears in Figure 13.

Agricultural Grasslands

A large portion of the Study area (approximately 47% – 14,701 ha) has been cleared of native vegetation and is now agricultural grasslands dominated by buffel grass (*Cenchrus ciliaris*). Buffel grass is an introduced perennial pasture species that is highly productive, relatively palatable, and persistent under heavy grazing conditions, making it a useful pasture species for cattle. Buffel grass dominates the ground layer. Trees are largely absent but generally consist of isolated acacias and eucalypts. The fauna habitat value of agricultural grasslands across the Study area is typically low, owing to the relative lack of shelter / cover and food resources.



SQUATTER PIGEON HABITAT MAPPING

Olive Downs Project

FIGURE 13



Plate 9 Agricultural grassland dominated by buffel grass (*Cenchrus ciliaris*) on Iffley

Waterways and lacustrine waterbodies (watercourses and drainage features)

Waterways are located throughout the Study area, within areas of remnant vegetation or areas of agricultural grasslands. There are 53 waterways mapped for the Study area, including:

- 25 waterways of (Strahler) stream order 1;
- nine waterways of stream order 2;
- 13 waterway of stream order 3 (including Bundarra Creek);
- five waterways of stream order 4 (including North Creek and Devlin Creek); and
- one waterway of stream order 6 (the Isaac River).

Further detail on some of these waterways is available in the Olive Downs Coking Coal Project Aquatic Ecology Assessment (DPM Envirosciences 2018c).

Lacustrine waterbodies of the Study area include dams of various sizes. These dams provide a water source for an array of terrestrial fauna, domestic livestock, as well as foraging and breeding habitat for waterbirds, wader birds, frogs, reptiles, water rats and other mammals.

5.2 Conservation significant fauna species

5.2.1 EVNT fauna species

Searches of the EPBC Act Protected Matters database (DEE 2018a) and Queensland Wildlife Online database (DES 2018a) identified the potential occurrence of 17 EVNT fauna species within a search area extending 10 km and 50 km (respectively) from the Study area. Of these, five EVNT fauna species were considered 'likely' to occur within the Study area based on the likely occurrence of their preferred habitat, as well as previous species records from within 10 km of the Study area. Four of these five species were subsequently recorded within the Study area. The following EVNT fauna species were recorded from the Study area 6-17 March 2018:

- koala – Vulnerable (EPBC Act and NC Act);
- greater glider – Vulnerable (EPBC Act and NC Act);
- ornamental snake – Vulnerable (EPBC Act and NC Act); and
- squatter pigeon (southern) – Vulnerable (EPBC Act and NC Act).

No Australian painted snipe (*Rostratula australis*) (Endangered [EPBC Act]; Vulnerable [NC Act]) were detected, although transient individuals are likely to utilise the Study area on occasion.

5.2.2 EVNT fauna habitat

Squatter pigeon (southern) habitat

The squatter pigeon (southern) has a large distribution extending from the Burdekin-Lynd divide in Central Queensland, west to Charleville and Longreach, east to the coastline between Proserpine and Port Curtis (near Gladstone) and south to a number of scattered sites throughout south-eastern Queensland (DEE 2018b). All of the relatively small isolated and sparsely distributed sub-populations occurring south of the Carnarvon Ranges in Central Queensland are considered to be important subpopulations of the subspecies (DEE 2018b).

The squatter pigeon (southern) was identified on eight occasions within various habitats (Figure 14). The squatter pigeon (southern) occurs mainly in grassy woodlands and open forests that are dominated by eucalypts (DEE 2018b). Within the Study area all areas of eucalypt dry woodlands on inland depositional plains and eucalypt open forests to woodlands on floodplains are considered potential habitat for this species. Potential habitat mapping for the squatter pigeon (southern) within the Study area is presented as Figure 14.

Other broad habitat types (i.e. rainforests and scrubs, wetlands, acacia forests and agricultural grasslands) were not considered potential habitat because they do not support the grassy understorey with a high density of native grasses necessary to provide food resources for this species and the canopy shelter and microhabitat.

Terrestrial habitat quality assessments for potential squatter pigeon habitat indicates an average score of seven (7). There were 15 sites assessed including two in RE 11.3.2, six in RE 11.3.25 and seven in regrowth RE 11.5.3. The total area of potential habitat is 13,240.4 ha (including 7,163 ha of regrowth, if managed back to remnant status). The complete terrestrial habitat quality assessments are shown in Appendix D.

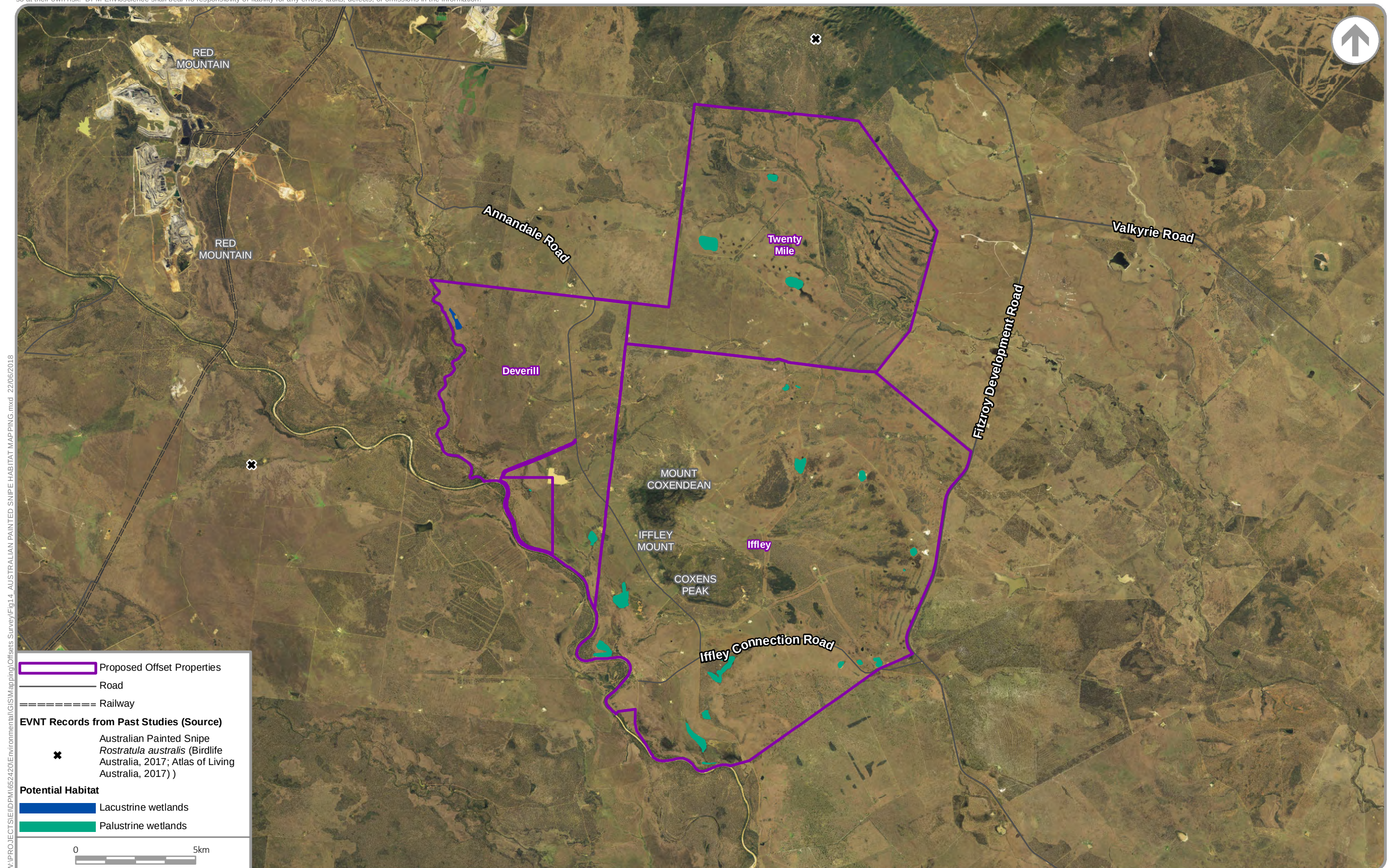
Australian painted snipe habitat

The Australian painted snipe generally inhabits shallow terrestrial freshwater wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire (DEE 2018b).

Australian painted snipe was not observed during the field surveys. Records of this species within the broader locality and are from waterways or wetlands (including gilgai), with the closest being approximately 5 km north (Figure 15). Within the Study area all areas of wetlands (lacustrine or palustrine) are considered potential habitat for this species (Figure 15).

Terrestrial habitat quality assessments for wetland habitats indicates an average score of six (6) for potential Australian painted snipe habitat. There were nine sites assessed including four in

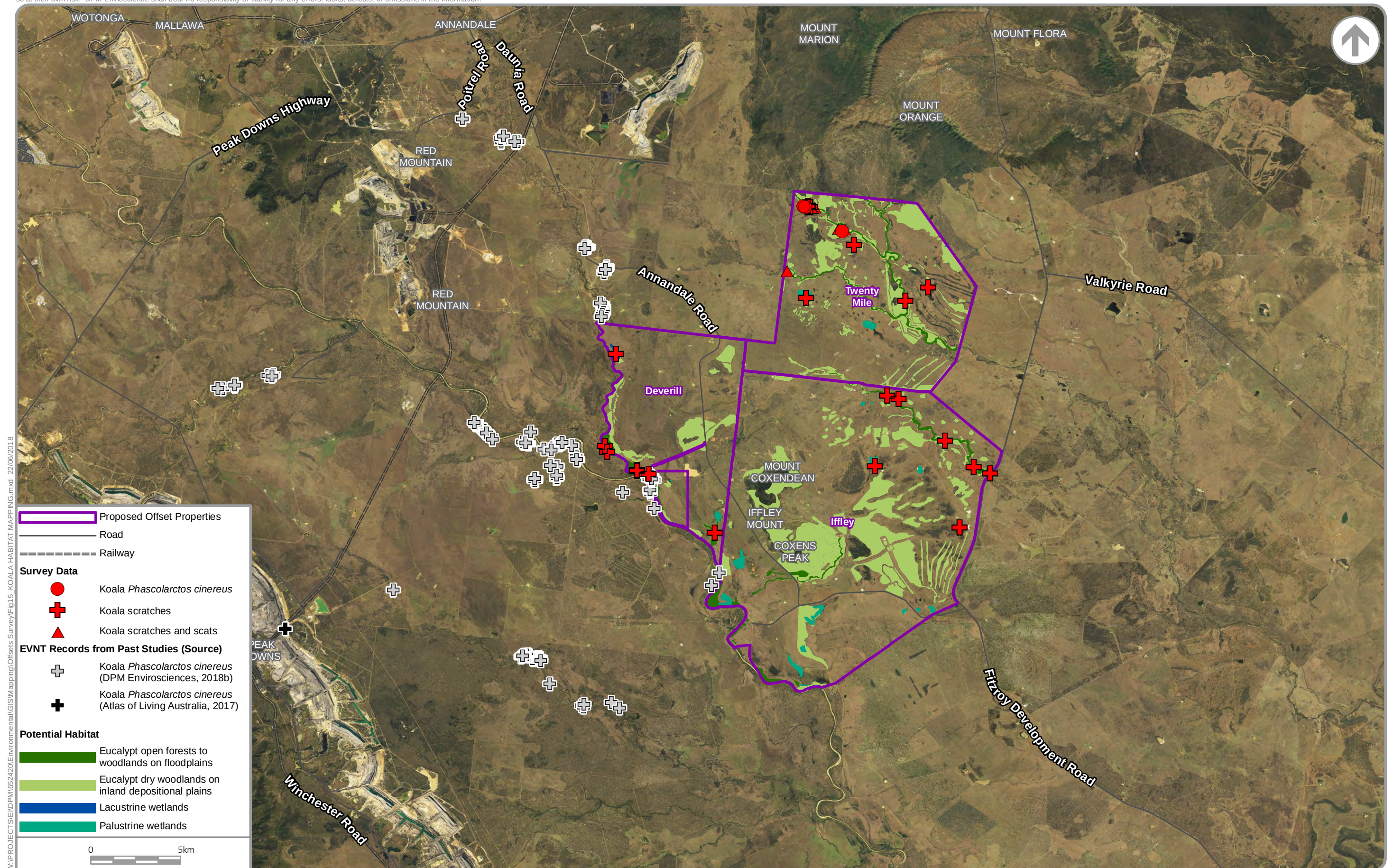
RE 11.3.27 and five in RE 11.5.17. The total area of potential habitat is 310.5 ha (no regrowth available). The complete terrestrial habitat quality assessments are shown in Appendix D.



AUSTRALIAN PAINTED SNIPE HABITAT MAPPING

Olive Downs Offset Surveys

FIGURE 14



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Koala habitat

The koala has one of the largest distributions of any terrestrial threatened species listed under the EPBC Act (DotE 2014). It occupies a variety of vegetation types across this large distribution, is capable of moving long distances, and is variably affected by a range of threats (DEE 2018b). Koala habitat is defined by the vegetation community present and the vegetation structure; koalas do not necessarily have to be present (DotE 2014). Any forest or woodland containing species that are known koala food trees, or shrubland with emergent food trees can be considered as 'potential koala habitat' (DEE 2018b). This can include remnant and non-remnant vegetation in natural, agricultural, urban and peri-urban environments. Koala food trees can generally be considered to be those of the genus *Angophora*, *Corymbia*, *Eucalyptus*, *Lophostemon* and *Melaleuca* (DEE 2018b).

Within the Study area, the koala was recorded on numerous occasions along the Isaac River and associated tributaries (Figure 16). Recordings included direct observation and identification of scats and scratches within Eucalypt dry woodlands on inland depositional plains, Eucalypt open forest to woodlands on floodplains, and around wetlands.

Within the Study area, potential koala habitat is located within the areas mapped as eucalypt open forests to woodlands on floodplains, eucalypt dry woodlands on inland depositional plains and the vegetation surrounding and within the lacustrine and palustrine wetlands (Figure 16). The potential habitat connections along the waterways (primarily the Isaac River and North Creek) provide movement corridors and refuge habitat for this species in an otherwise cleared and generally unsuitable landscape.

Terrestrial habitat quality assessments for potential koala habitat indicates an average score of six (6). There were 24 sites assessed including two in RE 11.3.2, six in RE 11.3.25, four in RE 11.3.27, five in RE 11.5.17 and seven in regrowth RE 11.5.3. The total area of potential habitat is 13,551 ha (including 7,163 ha of regrowth). The complete terrestrial habitat quality assessments are shown in Appendix D.

Greater glider habitat

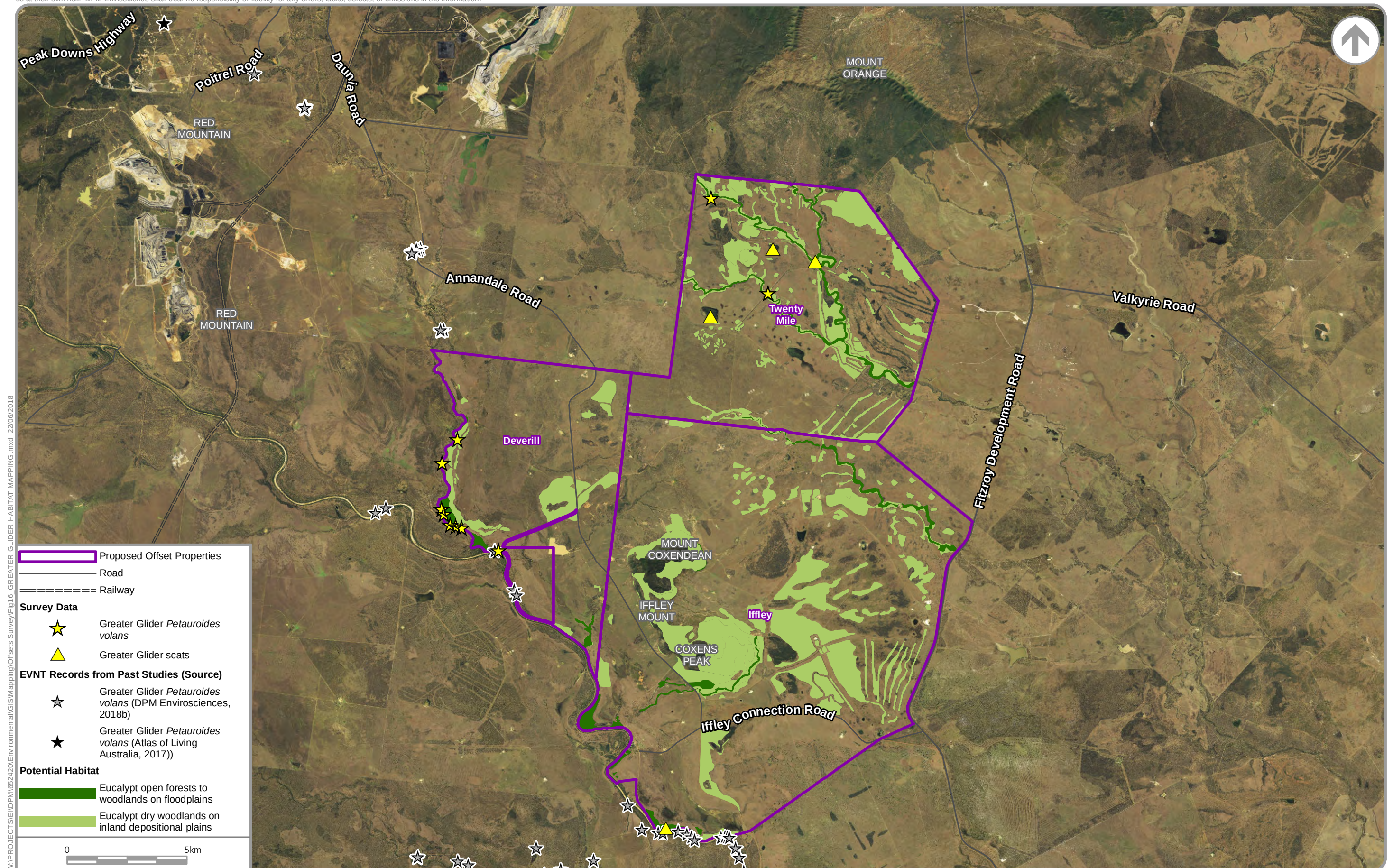
The greater glider is largely restricted to eucalypt forests and woodlands. It is typically found in higher abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows (TSSC 2016). The distribution may be patchy even in suitable habitat. The greater glider favours forests with a diversity of eucalypt species, due to seasonal variation in its preferred tree species (TSSC 2016).

Within the Study area, the greater glider was recorded on numerous occasions along the Isaac River and associated tributaries and wetland habitats (Figure 17). Recordings included direct observation and identification of scats within Eucalypt dry woodlands on inland depositional plains and Eucalypt open forest to woodlands on floodplains.

In the Study area all areas of eucalypt open forests to woodlands on floodplains, eucalypt dry woodlands on inland depositional plains and the vegetation surrounding and within the lacustrine and palustrine wetlands are considered potential habitat (Figure 17). The potential habitat connections along the waterways (primarily the Isaac River and North Creek) provide movement corridors and refuge habitat for this species in an otherwise cleared and generally unsuitable landscape.

Terrestrial habitat quality assessments for potential greater glider habitat indicates an average score of six (6). There were 24 sites assessed including two in RE11.3.2, six in RE11.3.25, four in RE 11.3.27, five in RE 11.5.17 and seven in regrowth RE 11.5.3. The total area of potential

habitat is 13,551 ha (including 7,163 ha regrowth). The complete terrestrial habitat quality assessments are shown in Appendix D.



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ORNAMENTAL SNAKE HABITAT MAPPING

Olive Downs Offset Surveys

FIGURE 17

Ornamental snake

The ornamental snake prefers habitat that is close to its prey (primarily frogs). It prefers moist woodlands and open forests, particularly gilgai mounds as well as lake margins and wetlands (DEE 2018b). It is found in low-lying subtropical areas with deep-cracking clay soils (DERM 2018) and persists in cleared, disturbed habitat, particularly where brigalow communities have been cleared (DSEWPC 2011c).

Two ornamental snakes were recorded during nocturnal spotlighting in the Study area (Figure 18). Desktop mapping produced by GT Environmental (2018) across the Study area identified areas of gilgai relief, which are the most accurate reflection of potential habitat for this species.

Based on observations of ornamental snake habitat across the Study area, areas of potential habitat occur in a significant portion of agricultural grasslands (where there was once brigalow), as well as small patches of palustrine wetlands (swamps) and acacia dominated open forests, woodlands and shrublands where these soil types are also present (Figure 18).

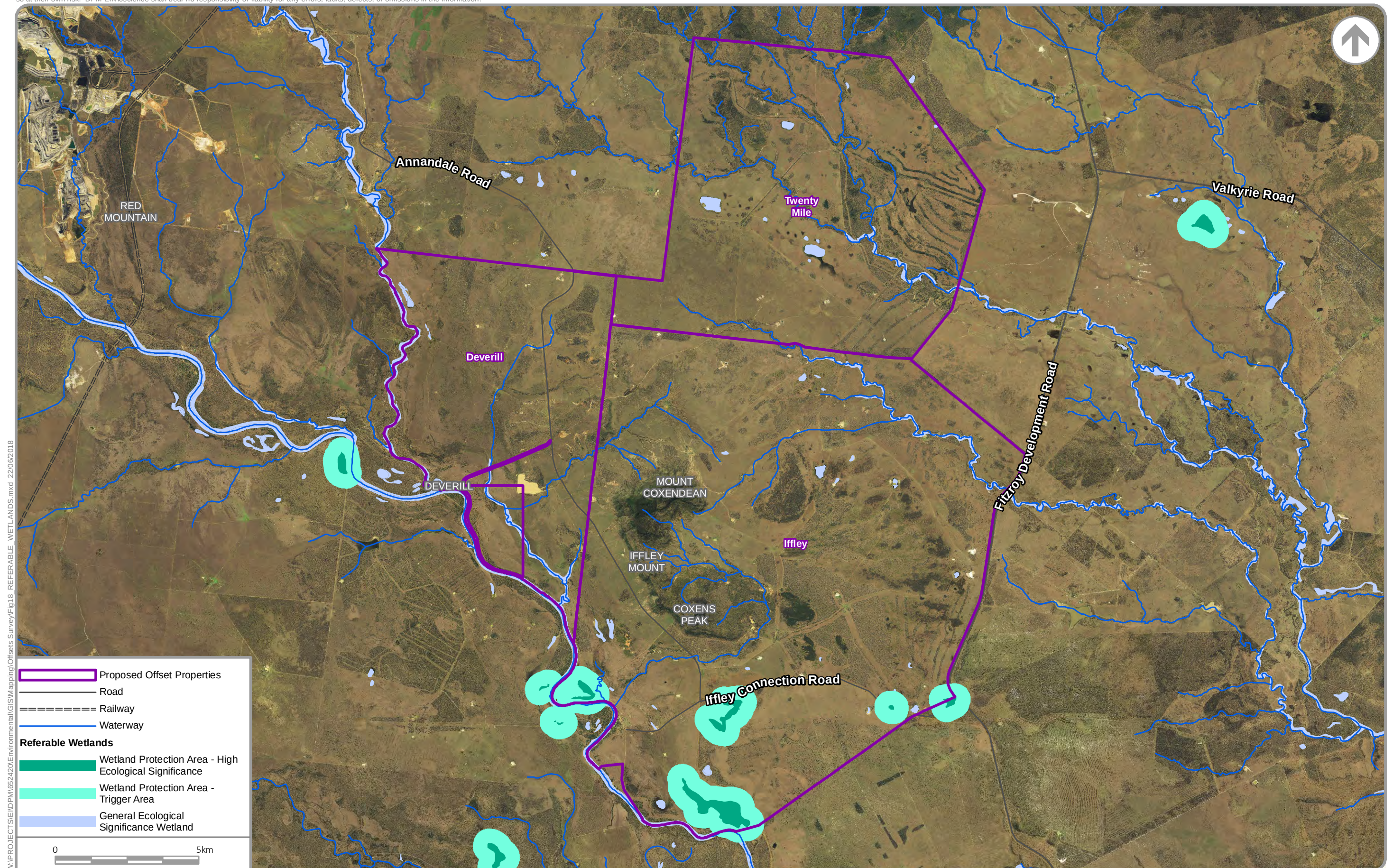
The areas mapped on Figure 18 as potential habitat for the ornamental snake also contain woody debris (which would provide sheltering habitat for the ornamental snake when cracks are not available), are low lying, and during the wet season would hold water long enough for frogs to inhabit them, providing a food source for the ornamental snake.

As the majority of the potential habitat for this species is mapped within the agricultural grasslands, there are a number of existing threats to the ornamental snake. These include heavy weed infestation, presence of introduced fauna species (including cane toads), agricultural grazing and habitat fragmentation.

Terrestrial habitat quality assessments for potential ornamental snake habitat indicates an average score of six (6). There were 20 sites assessed including one in RE 11.3.1b, two in RE 11.4.8, six in RE 11.4.9, five in regrowth RE 11.3.1, three in regrowth RE11.4.8 and three in regrowth RE 11.4.9. The total area of potential habitat is 5,166 ha. The complete terrestrial habitat quality assessments are shown in Appendix D.

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5.3 Introduced species

Eight introduced fauna species were recorded from the Study area. Introduced species that have been identified as Restricted Matters are listed in Schedule 2 of the Queensland *Biosecurity Act 2014*. This refers to biosecurity matters that are currently found in Queensland and that are known to have a significant impact on human health, social amenity, the economy or the environment. Introduced species recorded in the study area include:

- cane toad (*Rhinella marina*);
- cat (*Felis catus*) – Restricted matter categories 3, 4 and 6;
- dog (*Canis lupus familiaris*) – Restricted matter categories 3, 4 and 6;
- European hare (*Lepus europaeus*);
- European rabbit (*Oryctolagus cuniculus*) – Restricted matter categories 3, 4, 5 and 6;
- fallow deer (*Dama dama*);
- house mouse (*Mus musculus*); and
- feral pig (*Sus scrofa*) – Restricted matter categories 3, 4 and 6.

From a management perspective, the most important feral animal is feral pig. Most of the wetlands and major watercourses have suffered from pig diggings. Future management options may include: trapping and helicopter shooting. Consideration will also need to be given to the low priority for pig management in the local area, as reduction programs may need to be ongoing given the large numbers of pigs that have been observed on neighbouring properties.

Dingoes and wild dogs are in large numbers across the offset properties and likely having some impact on native animals. Cats and foxes are also present, and the dynamic between apex predators and mesopredators may need to be explored as part of a subsequent management program.

6 WETLANDS OF HIGH ECOLOGICAL SIGNIFICANCE

DEHP has determined the ecological significance of wetlands within the Great Barrier Reef catchments using their AquaBAMM (Rollason and Howell 2012). The method identifies relative wetland conservation values within a catchment, and includes consideration of environmental values for wetlands in section 81A of the *Environmental Protection Regulation 2008* (EP Regulation), including:

- the health and biodiversity of the wetland's ecosystems;
- the wetland's natural state and biological integrity;
- the presence of distinct or unique features, plants or animals and their habitats, including threatened wildlife, near threatened wildlife and rare wildlife under the NC Act;
- the wetland's natural hydrological cycle; and
- the natural interaction of the wetlands with other ecosystems, including other wetlands.

Referable wetlands are areas shown as wetlands on the Map of Referable Wetlands, a document approved by the Chief Executive of, and published by, DEHP (now DES) (section 144D of the EP Regulation). The map of referable wetlands identifies:

- High Ecological Significance (HES) wetlands;
- Wetland Protection Areas (WPAs), comprising HES wetlands and their trigger area buffers; and
- General Ecological Significance (GES) wetlands.

A total of 37 palustrine wetlands have been mapped within the Study area as part of the Queensland Wetlands Mapping 2015 (DES 2018d). This includes four HES wetlands and their WPA buffers, and a number of GES wetlands, including both palustrine and riverine wetlands (Figure 19). The HES wetlands are located on the Iffley property and include:

- RE 11.3.1b wetland of approximately 108 ha in the Queensland Wetlands Mapping 2015 and Map of Referable Wetlands (ground truthed as largely non-remnant and partly REs 11.3.27f, 11.3.2 and 11.3.1b);
- RE 11.3.27b wetland of approximately 38 ha in the Queensland Wetlands Mapping 2015 and Map of Referable Wetlands (ground truthed as RE 11.5.17);
- RE 11.3.27b wetland of approximately 13.4 ha in the Queensland Wetlands Mapping 2015 and Map of Referable Wetlands (ground truthed as RE 11.3.27f);
- RE 11.3.27b wetland of approximately 21 ha in the Queensland Wetlands Mapping 2015 and Map of Referable Wetlands (ground truthed as RE 11.3.27f; Plate 10); and
- RE 11.5.17 wetland of approximately 2 ha in the Queensland Wetlands Mapping 2015 and Map of Referable Wetlands (ground truthed as RE 11.5.17; Plate 11).

A portion (approximately 1.3 ha) of a fifth HES wetland falls within the Study area in the south-east corner of Iffley. However, the majority of this wetland (approximately 7 ha of the 8.3 ha total area) falls outside the Study area, and is unlikely to be of use for offsets.

WPAs, including HES wetlands, are a MSES identified in the *Environmental Offsets Regulation 2014* (EO Regulation) (Schedule 2[4]). Wetlands of GES are not considered a MSES.



Plate 10 HES wetland on Iffley (site HESBC01 on Figure 4), May 2018



Plate 11 HES wetland on Iffley (site HESBC02 on Figure 4), May 2018

7 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

7.1 Description of MNES in Study area

Threatened Ecological Communities

The desktop assessment identified the potential occurrence of two TECs listed under the EPBC Act. One of these communities, the Brigalow TEC, was identified within the Study area. Brigalow TEC within the Study area comprises only those patches of vegetation that meet the condition thresholds identified in Section 3.4.4. The location of Brigalow TEC within the Study area is identified in Figure 11. The TEC's in the Study area are discussed in detail in Section 4.1.4.

Threatened species

No flora species listed under the EPBC Act were recorded in the Study area. Four threatened species listed under the EPBC Act were recorded within the Study area, namely:

- ornamental snake – Vulnerable;
- squatter pigeon (southern) – Vulnerable;
- koala – Vulnerable; and
- greater glider – Vulnerable.

Details of these records and the potential habitat within the Study area for these species are provided in Sections 5.2.1 and 5.2.2 respectively.

Migratory species

It was determined that the Study area does not contain important habitat for a migratory species as it does not include (DotE 2013a):

- habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species; and / or
- habitat that is of critical importance to the species at particular life-cycle stages; and / or
- habitat utilised by a migratory species which is at the limit of the species range; and / or
- habitat within an area where the species is declining.

7.2 Available MNES offset areas

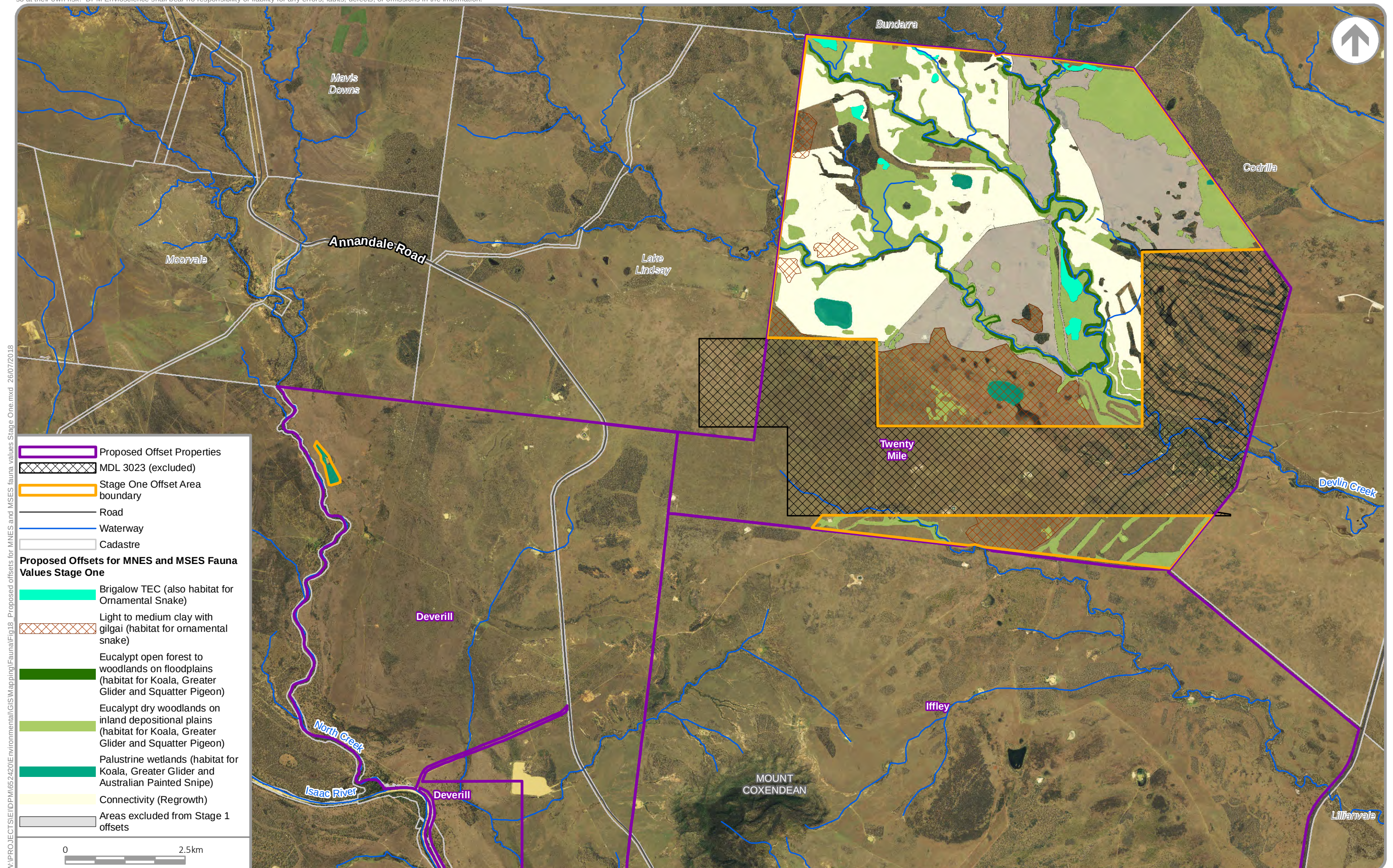
Within the Study area the area of mappable MNES (i.e. areas of TEC and potential habitat for threatened species) has been quantified and this is presented in Table 9. These areas will be available as potential MNES offset areas within the Study area are identified in Figure 20.

Table 9 Areas available as potential MNES offsets

MNES	Description	Area (ha)
Threatened Ecological Communities	Brigalow TEC (also habitat for ornamental snake)	91.5
Threatened species	Palustrine wetlands (habitat for koala, greater glider and Australian painted snipe)	310.5
	Eucalypt dry woodlands on inland depositional plains (habitat for koala, greater glider and squatter pigeon)	5,518
	Eucalypt open forest to woodlands on floodplains (habitat for koala, greater glider and squatter pigeon)	560
	Light to medium clay with gilgai (habitat for ornamental snake)	5165.5
	Regrowth eucalypt dry woodlands on depositional plains and open forest on floodplains (future habitat for koala, greater glider and squatter pigeon)	7,163

DPM Enviroscience does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. DPM Enviroscience shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.

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8 MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE

8.1 Description of MSES in the Study area

The environmental offsets framework in Queensland includes the *Environmental Offsets Act 2014* (EO Act), the EO Regulation and the Queensland *Environmental Offsets Policy* (EO Policy) (DES 2018e). MSES are defined in the EO Regulation and are a component of the biodiversity state interest identified in the Queensland State Planning Policy (Department of Infrastructure, Local Government and Planning 2017).

A summary of the MSES (relevant to terrestrial flora and fauna) that were recorded in the Study area during the field surveys is provided as Table .

Table 10 Matters of State Environmental Significance located in the Study area

Prescribed Environmental Matter	Present in the Study area	Detail
Regulated vegetation	Yes	A number of MSES were identified during the surveys as occurring within the Study area (DEHP 2014a). These include: ▪ Endangered RE (RE 11.3.1, RE 11.3.1b, RE 11.4.8, RE 11.4.9, RE 11.5.17 and RE 11.9.1) ; ▪ Of Concern RE (RE 11.3.2, RE 11.3.36 and RE 11.10.8); ▪ RE that intersects with an area shown as a wetland on the vegetation management wetlands map (RE 11.3.25 and RE 11.3.27); and ▪ RE located within a defined distance from the defining banks of a relevant watercourse or relevant drainage feature.
Connectivity	Yes	Areas of regrowth are available as offsets for impacts on connectivity values in the Olive Downs Coking Coal Project area.
Wetlands and watercourses	Yes	Four HES wetlands occur in the Study area and a portion (approximately 1.3 ha) of a fifth HES wetland (Figure 19).
Protected Wildlife Habitat	Yes	Flora: ▪ <i>Solanum elaeagnifolium</i> – Endangered (NC Act). Fauna: ▪ squatter pigeon (southern) – Vulnerable NC Act and EPBC Act; ▪ koala– Vulnerable NC Act and EPBC Act; ▪ greater glider – Vulnerable NC Act and EPBC Act; and ▪ ornamental snake – Vulnerable NC Act and EPBC Act.
Koala Habitat in South-East Queensland	No	The Study area is not located in South-east Queensland.

Prescribed Environmental Matter	Present in the Study area	Detail
Protected Areas	No	The Study area does not contain protected areas.
Fish Habitat Areas and Highly Protected Zones of State Marine Parks	No	The Study area is not located in a State Marine Park.
Waterway providing for fish passage	Yes	Isaac River and North Creek – detailed investigations were not within the scope of this report.
Marine Plants	No	The Study area is not located in a marine environment.
Secured Offset Area	No	The Study area does not contain legally secured offset areas.

8.2 Available MSES offset areas

Within the Study area the area of mappable MSES (i.e. areas of regulated vegetation and wetlands) has been quantified and this is presented in Table 11. These areas will be available as potential MSES offset areas within the Study area. Potential MSES offset areas within the Study area are identified in Figure 21.

Table 11 Areas available as potential MSES offsets

MSES	Description	Area (ha)
Regulated vegetation		
Endangered RE	11.3.1	65.9
	11.4.8	85.7
	11.4.9	187.1
	11.9.1	25.7
	11.5.17	175.6
Of Concern RE	11.3.2	843.2
	11.3.36	28.6
Wetland vegetation	11.3.27f	135
Waterway vegetation (within a defined distance of a waterway)	11.3.25	465
	11.5.3	46.2
	11.5.8c	9
	11.5.9	29.5
Connectivity		
Connectivity	Regrowth areas	9,270
Wetlands and watercourses		
Wetlands	HES wetlands	128.5

9 CONCLUSION

The scope of this assessment was to verify RE mapping for the Study area; identify any conservation significant species under the Queensland NC Act and Commonwealth EPBC Act, and to identify and describe any Matters of State and National Environmental Significance.

Terrestrial flora surveys were undertaken and included ground-truthing REs using quaternary level assessment in accordance with the Queensland Herbarium vegetation survey methods described in Neldner et al. (2017); terrestrial habitat quality assessment in accordance with the *Guide to Determining Terrestrial Habitat Quality* (DEHP 2017a); identification of TECs; and random meander searches for species of conservation significance.

Terrestrial fauna surveys were undertaken in accordance with the relevant State and Commonwealth survey guidelines. Survey methods included spotlighting, diurnal bird surveys, active searches, searches for scats and other signs, and habitat assessments. Targeted searches for threatened fauna species listed under the NC Act and EPBC Act were also conducted.

A total of 23 individual native REs were ground-truthed within the Study area. Of these, six have a conservation status of 'Endangered' (RE 11.3.1, RE 11.3.1b, RE 11.4.8, RE 11.4.9, RE 11.5.17 and RE 11.9.1) and three have a conservation status of 'Of Concern' (RE 11.3.2, RE 11.3.36 and RE 11.10.8) under the VM Act.

MNES recorded within the Study area was limited to one TEC listed under the EPBC Act, namely: the Brigalow TEC. The Brigalow TEC in the Study area is represented by two patches of RE 11.3.1, three patches of RE 11.4.8 and six patches of RE 11.4.9 (totalling approximately 91.5 ha).

Four EVNT fauna species were recorded from the Study area, confirming the presence of habitat for:

- koala – Vulnerable (EPBC Act and NC Act);
- greater glider – Vulnerable (EPBC Act and NC Act);
- ornamental snake – Vulnerable (EPBC Act and NC Act); and
- squatter pigeon (southern) – Vulnerable (EPBC Act and NC Act).

No Australian painted snipe (*Rostratula australis*) (Endangered [EPBC Act]; Vulnerable [NC Act]) were detected, although transient individuals are likely to utilise the Study area on occasion.

MSES relevant to this assessment, and identified within the Project area, include the following regulated vegetation:

- Endangered RE (RE 11.3.1, RE 11.3.1b, RE 11.4.8, RE 11.4.9, RE 11.5.17 and 11.9.1);
- Of Concern RE (RE 11.3.2, RE 11.3.36 and RE 11.10.8);
- REs that intersect a wetland on the vegetation management wetlands map (RE 11.3.27); and
- REs within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map.

The Endangered (NC Act) flora species *Solanum elaeagnifolium* was recorded in the Study area, confirming the presence of both known and potential habitat for this species (although none is required for offsets for the Olive Downs Coking Coal Project).

Areas of regrowth are available in the Study area to offset impacts on connectivity values in the Olive Downs Coking Coal Project area. More advanced regrowth, identified as being most suitable for Stage One of the Olive Downs Coking Coal Project, is located in the north-west of Twenty-Mile and is largely woodland habitat dominated by RE 11.5.3.

A number of palustrine wetlands, including RE 11.3.27f and RE 11.5.17, have been identified and assessed within the Study area. Four of the wetlands are mapped as HES wetlands, two of which have been assessed for terrestrial habitat quality. There is opportunity to improve the condition of these wetlands through stock exclusion and weed and pest animal management to provide offsets for the HES wetland impacted by Stage One of the Olive Downs Coking Coal Project.

This report has focussed on the ecological values present within the Study area that may have value as offsets for the Olive Downs Coking Coal Project.

Further investigation and field work will be required to assess terrestrial habitat quality of remaining areas of the Study area for subsequent stages of the Project.

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Appendix A: Assessment team Curricula Vitae

Bruce McLennan

Professional summary

Bruce is an experienced ecologist with over 10 years working on a range of projects in Queensland and Northern NSW. The last six years have been focussed on professional support to the major gasfields projects in a number of capacities with a skills focus around the botanical sciences. Bruce has significant experience undertaking pre-clearance vegetation surveys and mapping regional ecosystems. Having worked as a Vegetation Planning Officer with Greening Australia for a number of years, Bruce has a wide knowledge of vegetation management and rehabilitation techniques at a property scale. In addition, Bruce has particular experience in environmental offsets. Bruce was an integral member of the offsets team at Amec Foster Wheeler, playing a key role in landholder engagement, ground-truthing offset sites including BioCondition assessments and preparing offset management plans and costings.

Education

Bachelor of Business, Rural Management, University of Queensland, Gatton, Queensland, Australia, 1982

Master of Sustainability Science, University of Southern Queensland, Toowoomba, Queensland, Australia, 2009

Relevant training and endorsements

Vegetation Structure Training – Queensland Herbarium

Regional Ecosystem Training – O2 Ecology

BioCondition Assessment Training – Queensland Herbarium

Grass Identification training – Greening Australia

Native seed collection training – Florabank

Working With Wildlife – Catch and relocate venomous snakes for regional areas

RTD2313A Clean machinery of plant, animal and soil material

RTD2312A Inspect machinery for plant, animal and soil material

DSEWPaC approved suitable ecologist for APLNG terrestrial ecology surveys

DSEWPaC approved suitable ecologist for QCLNG terrestrial ecology surveys

Mining Supervisor (S123) training – OHSA

Senior First Aid and CPR

MC Class Drivers Licence

Operate and Maintain 4WD RIIVEH305E

Construction blue card

Fauna handling training – Geckoes Wildlife

Approved NSW BioBanking, BioCertification & Framework for Biodiversity Assessment Assessor (December 2015)

(Assessor number: 189)

Member of EIANZ

Basic level competency with Arc Map and MapInfo

Competent in field data collection with Trimble, Leica and Garmin GPS products.

Employment history

2016 to Present | Arcadian Ecology | Senior Ecologist

2013 to 2016 | Amec Foster Wheeler | Senior Environmental Scientist (Unidel was purchased by AMEC in mid 2013)

2010 to 2013 | Unidel | Senior Environmental Scientist

2010 | Unidel | Land Access Consultant

2009 to 2010 | Greening Australia Queensland | Bunya Biolink Implementation Manager

2008 to 2009 | Greening Australia Queensland | Regional Supervisor Vegetation and Business (West Region)

2007 to 2008 | Greening Australia Queensland | Vegetation Planning Officer (West Region)

2003 to 2007 | Toowoomba Landscape Supplies | Customer relations, estimates and quotes, manufacturing

2002 to 2003 | Westbank Feedlot | Yardman

2001 to 2002 | Queensland Department of Primary Industries | Landholder Liaison and Group Coordinator

2000 to 2001 | Conservation Farmers Inc | Field Services Officer

1985 to 2001 | Broad-acre farming enterprise, Wallumbilla, Queensland | Owner/Manager

Representative and recent projects

North Maclean EPBC Offsets

28 South Environmental, Queensland, Australia, 2016

Bruce has provided technical input to offset requirements for a development proposal at North Maclean. Bruce has located a number of potential offset sites for the federally listed Koala, Swift parrot and Grey-headed flying fox within the Wivenhoe Valley area and has initiated contact with a number of landholders with potential offset sites. Project ongoing.

Australia Pacific LNG Project – Wybara and Moorabinda Weeds Surveys

Australia Pacific LNG, Queensland, Australia, 2016

Bruce assisted in the collection of weeds and waterway crossing data across Phase 2 gasfields works on Wybara property and Exploration and Assessments early works on Moorabinda near Origin Energy's Spring Gully and Eurombah Creek gas projects.

Australia Pacific LNG Project – Orana North Soils and Weeds Surveys

Australia Pacific LNG, Queensland, Australia, 2016

Bruce assisted in collecting soil data and samples across the APLNG construction footprint on Origin Energy's Orana well development area south of Miles and Chinchilla. This data is used to inform the soil amelioration report as well as the site sediment and erosion control management plan. The collection of data on weed species listed under national and state legislation is used to inform pre-construction control teams and contribute to reporting conditions.

Central Highlands Regional Council – Water Pipeline Survey and TEC Evaluations

28 South Environmental, Queensland, Australia, 2016

Bruce provided technical advice and field survey expertise on flora species and vegetation communities along a 22km water pipeline route from Emerald to a proposed development site. Bruce also provided advice and field survey sufficient to allow the delineation of threatened ecological community (Brigalow EPBC listing) units within a broader polygon of mapped endangered vegetation under the Qld Vegetation Management Act.

Australia Pacific LNG Project – Talinga Soils Survey

Australia Pacific LNG, Queensland, Australia, 2016

Bruce assisted in collecting soil data and samples across the APLNG construction footprint on Origin Energy's Talinga well development area south of Miles. This data is used to inform the soil amelioration report as well as the site sediment and erosion control management plan.

Eugene Street – Vegetation Assessment

28 South Environmental, Queensland, Australia, 2016

Bruce conducted an assessment of vegetation extent and quality on a planned private development site at Bellbird Park, in the Ipswich City Council area in south east Queensland. Key considerations were the accuracy of regulated vegetation mapping, the presence of MNES and/or EVNT species, habitat quality and any other conservation values on the site. The client was provided with a vegetation report and plant species list for the area.

Keperra Quarry – Vegetation Assessment

28 South Environmental, Queensland, Australia, 2016

Bruce conducted a vegetation assessment on Keperra Quarry in Brisbane for a private developer. An assessment of the extent and health of mapped regulated vegetation, assessment of weed infestations and a species list were provided to the client.

Central Highlands Regional Council – Regional Ecosystem Map Change

28 South Environmental, Queensland, Australia, 2016

Bruce provided technical advice on threatened ecological communities and field surveyed across three properties to define vegetation mapping units at a property scale. Bruce prepared sufficient site assessment documents using the Queensland Herbarium's Map Modification Kit to allow the remapping of vegetation on the properties.

Australia Pacific LNG Project – Orana South Soils Survey

Australia Pacific LNG, Queensland, Australia, 2016

Bruce assisted in collecting soil data and samples across the APLNG construction footprint on Origin Energy's Orana well development area south of Chinchilla. This data is used to inform the soil amelioration report as well as the site sediment and erosion control management plan.

Bowen Gas Pipeline and Bowen Gas Project – Environmental Offsets

Arrow Energy Pty Ltd, 2015

Bruce was part of the Amec Foster Wheeler team which developed the offset strategy for the Bowen Gas Project in Central Queensland. Bruce's contribution included assessment of MNES impacts and input into the Offsets Strategy report. Subsequent to this Bruce was involved in the assessment of suitable properties within the vicinity of the project that would allow the offsetting of Brigalow, SEVT and Natural Grasslands Threatened Ecological Communities as well as a number of identified MNES and MSES which included threatened flora and fauna, wetlands, regional ecosystems and riparian vegetation. Bruce made initial contact with potential landholders and arranged field visits on properties from Nebo west to Gemfields and south to Rolleston. Bruce conducted field visits where landholders were introduced to the offset concept and preliminary property assessments were made where vegetation allowed suitable offset opportunity. Subsequent to field visits Bruce shortlisted suitable properties and developed high level costings and high level vegetation management plans for each offset property and contributed to a final report for the client.

Central Queensland Offset Monitoring

Greening Australia Queensland, Brisbane, 2015

Bruce provided photo monitoring and condition reporting for offset sites on five properties at Nebo, Mt Coolon, Hibernia and Dingo in Central Queensland. Bruce also provided advice to the offset manager on grazing, weeds and general site condition.

Australia Pacific LNG Project – Wybara Weeds Survey

Australia Pacific LNG, Queensland, Australia, 2015

Bruce conducted a survey for weeds listed under the Queensland Land Protection Act 2002 and Weeds of National Significance across infrastructure footprints on Wybara in the Spring Gully area. Data was collected on Trimble GPS units to provide accurate quantification of weed infestation across the property.

Australia Pacific LNG Project – Wybara Soils Survey

Australia Pacific LNG, Queensland, Australia, 2015

Bruce assisted in collecting soil data and samples across the APLNG construction footprint on Wybara. This data is used to inform the soil amelioration report as well as the site sediment and erosion control management plan.

Mount Isa Mines – Biodiversity Study (Wet Season)

Glencore - Mount Isa Mines, Queensland Australia 2015

Bruce led the flora team survey effort in which 40 BioCondition sites, within the Mount Isa Mines ML8058, were surveyed for species composition, canopy covers and heights, weediness and general site condition to provide baseline and comparative data for ongoing monitoring of biodiversity within the lease.

Walton Coal Project – Environmental Offsets Advice

Aquila Resources, Queensland, Australia, 2015

Bruce contributed to the high level environmental offsets advice for the Walton development near Dingo and was responsible for assessing likely offset requirements, locating suitable rural properties for offset locations and providing a high level costing.

Wiggins Island Balloon Loop Offsets,

Aurizon, Queensland, Australia, 2012-2015

Bruce has played a significant role in delivery of vegetation offset requirements for the Wiggins Island Balloon Loop development near Gladstone. Bruce has assisted in the identification of suitable offset sites to meet the project's requirements through a combination of desktop analysis and ground-truthing. Bruce was responsible for engaging with landholders and assessing the suitability of potential offset sites in the field. Bruce completed vegetation surveys to confirm regional ecosystems, completed BioCondition assessments and identified key management requirements and overall offset suitability. Bruce completed the first monitoring assessment of the site on behalf of Greening Australia in July 2015 and provided sufficient reporting to satisfy client and regulatory requirements.

Wiggins Island Coal Export Terminal (WICET) environmental offsets monitoring,

Greening Australia Queensland, Queensland, Australia 2013-2015

Bruce has led the monitoring program for the WICET offset which involves the annual recording of data from a number of sites at the offset location near Bororen south of Gladstone. Disciplines involved include BioCondition assessments, photo monitoring and a range of landholder liaison issues including fire and firebreak management, weed control measures, fencing and repair, grazing management, feral animal control and erosion control. Bruce has also completed final reporting for the client and regulator.

Ergon Energy environmental offsets monitoring,

Greening Australia Queensland, Queensland, Australia 2013-2015

Bruce has led the monitoring program for the Ergon offset which has involved the annual recording of data from a number of sites at the offset location near Bororen south of Gladstone. Disciplines involved include BioCondition assessments, photo monitoring and a range of landholder liaison issues including fire and firebreak management, weed control measures, fencing and repair, grazing management, feral animal control and erosion control. Bruce has provided information sufficient to allow the client to prepare the required reporting for the regulator.

Gladstone Area Water Board (GAWB) environmental offsets monitoring,

Greening Australia Queensland, Queensland, Australia 2015

Bruce has led the GAWB monitoring program which has involved the annual recording of data from two separate offset areas near Bororen south of Gladstone. Disciplines involved include BioCondition assessments, photo monitoring and a range of landholder liaison issues including fire and firebreak management, weed control measures, fencing and repair, grazing management, feral animal control and erosion control. Bruce has provided information sufficient to allow the client to prepare the required reporting for the regulator.

Australia Pacific LNG Project – Gasfields Pre-Clearance Ecological Surveys

Australia Pacific LNG, Queensland, Australia, 2011-2015

Bruce has filled a team lead and mentoring role in the pre-clearance ecological surveys for gas fields infrastructure in the Injune, Miles, Condamine and Chinchilla area involving ground truthing of regional ecosystems, identifying and recording MNES constraints such as TECs, flora and fauna species, potential habitat sites, weed species distribution and abundance, assessment of referable wetlands and ordered streams, general site data including current land use and disturbances. He has also contributed to and reviewed final reporting.

Mount Isa Mines – Biodiversity Study (Dry Season)

Glencore - Mount Isa Mines, Queensland Australia 2014

Bruce led the flora team survey effort in which 40 BioCondition sites, within the Mount Isa Mines ML8058, were surveyed for species composition, canopy covers and heights, weediness and general site condition to provide baseline data for ongoing monitoring of biodiversity within the lease.

Southern Georgina Basin Exploration Program - Preclearance Surveys for Exploration Wells and Access

Central Petroleum, Queensland, Australia, 2014

Bruce completed ecology surveys for a number of proposed well sites in the Simpson Desert west of Bedourie and Boulia including access track environmental clearances. Involved in the surveys was the ground truthing of regional ecosystems, habitat assessment, survey for MNES and MSES, wetland and ordered stream impacts, record flora and fauna species.

Surat Gas Project – EPBC Act Offsets Plan

Arrow Energy Pty Ltd, 2014

Bruce provided high level costing advice and contributed to the offset strategy for the Surat Gas development in southern Queensland. Bruce helped identify a number of suitable offset properties via GIS desktopping and developed costing models for Brigalow, Natural Grasslands and Semi Evergreen Thicket Threatened Ecological Communities as well as a number of EPBC listed fauna species.

Mt Margaret Mine – Purple-Necked Rock Wallaby offset

Xstrata Copper, Queensland, Australia 2013

Bruce provided field advice on regional ecosystems and habitat suitability for Purple Necked Rock Wallabies on an Xstrata owned property to the north of Mount Isa. The survey involved the location and spatial identification of areas of suitable habitat as well as the survey of detailed baseline BioCondition transects. Bruce provided technical input into the final offset size and location.

Rolleston Coal Mine Expansion Offsets

Glencore/Xstrata Coal, Rolleston, Queensland, Australia, 2013

Bruce's role in delivery of offsets for this project entailed surveying proposed offset sites in proximity to Rolleston including assessing the presence and condition of offset values such as the natural grassland threatened ecological community, brigalow threatened ecological community and semi-evergreen vine thicket threatened ecological community. Bruce also prepared three offset management plans to identify the required management actions and associated timeframes, monitoring requirements, identification of key risks and how they would be mitigated. Bruce also liaised with on-ground contractors and Xstrata Coal to prepare costings for the implementation of the management plans including on-going monitoring and reporting.

Australia Pacific LNG Project – Analogue Site Vegetation Surveys

Australia Pacific LNG, Queensland, Australia, 2012-2013

Bruce led the field survey of 150 analogue vegetation sites for benchmarking APLNG project impacts for assessing rehabilitation effort. The sites were surveyed in accordance with the Queensland Herbarium Methodology for Surveying and Mapping of Regional Ecosystems and Vegetation Communities in Queensland. Sites were selected from an area bounded by Millmerran, Injune, Dululu and Gladstone. Bruce's role included:

- Identifying best on offer analogue sites using desktop information and GIS for the required regional ecosystems
- Arranging land access including contacting landholders and gaining their agreement for entry
- Field trip preparation including safety assessments and documentation, setting up GPS and field sheets etc.
- Completing community assessments in the field
- Writing up results of the BioCondition assessments.

Queensland Curtis LNG – Pre-clearance Surveys

Queensland Gas Company, Queensland, Australia, 2010-2012

Bruce has conducted ecological surveys which have included export pipelines, well locations and other supporting infrastructure. Surveys included identification and mapping locations of Threatened Ecological Communities (TEC); Ecologically Sensitive Areas; Endangered, Vulnerable and Near Threatened flora species and likely habitat; MNES, Essential Habitat features for flora and fauna; field verification of High Value Regrowth for TECs, waterways and wetlands; flora and fauna pests; wildlife corridors and regional ecosystems. Bruce has provided all reporting of surveyed areas.

Wiggins Island Balloon Loop Preclearance Survey

Aurizon, Queensland, Australia, 2012

Bruce conducted a field survey to allow the widening of parts of the existing rail corridor which involved regional ecosystem ground truthing and identification of impacts to habitat and EVNT flora species. Bruce provided input to reporting.

Australia Pacific LNG Project – Detailed Environmental Infield Surveys (DEIS)

Australia Pacific LNG, Queensland, Australia, 2011-2012

Bruce was a team leader on the DEIS for the Condabri Lateral, Wandoan to Gladstone Mainline, Woleebee Lateral, Western Pipeline and Spring Gully to Fairview Pipeline involving regional ecosystem identification and recording of structural characteristics, identification of MNES constraints, identification and quantification of EVNT plant species, identification of habitat features, identification of wetland and watercourse constraints, identification of weed issues, detailed species lists, and a number of other features such as disturbance, erosion, current land use etc. from Condamine to The Narrows north of Gladstone and from Wandoan west to Reedy Creek (Yuleba) and north to Santos' Fairview gasfields.

Australia Pacific LNG Project – Environmental Offsets (APLNG Project)

Australia Pacific LNG, Queensland, Australia, 2011-2012

Bruce was involved in the field assessments of potential offset sites suitable to allow offsetting of the vegetation and habitat impacts of the APLNG project in two phases over 2011 and 2012. The areas covered were from Hannaford in the south to Monto in the north and Durong in the east to Injune in the west. The assessments involved landholder discussions and field verification of regrowth values followed by preparation of detailed site reports, costing of the offsets and recommendations to the client.

Australia Pacific LNG Project – Route Alignment Walks (RAW) Survey

Australia Pacific LNG, Queensland, Australia, 2011

Bruce provided in field environmental advice on critical constraints to construction during the RAW survey in the planning stages of the Condabri Lateral and Wandoan to Gladstone Mainlines in the area stretching from Miles to east of Biloela. In this rapid assessment process critical tasks involved the identification of MNES such as endangered vegetation communities, identification of EVNT plant species and identification of habitat likely to contain EVNT fauna species.

Australia Pacific LNG Project – Environmental Offsets (Origin owned properties)

Australia Pacific LNG, Queensland, Australia, 2011

Bruce conducted rapid field assessments of the offset potential of Origin owned properties in the Chinchilla, Miles, Yuleba and Injune districts involving regional ecosystem identification of regrowth vegetation, calculation of useable areas and preparation of property reports to the client.

Australia Pacific LNG Project – Environmental Offsets (Spring Gully BioCondition Survey)

Australia Pacific LNG, Queensland, Australia, 2011

Bruce led the team which completed BioCondition surveys of the Origin owned "Scott's Creek" property in the Injune district involving the recording of 21 regrowth vegetation sites in Brigalow and SEVT regrowth and 6 reference sites on surrounding properties.

Origin Energy – Spring Gully Biodiversity Offset Potentials Survey

Origin Energy, Queensland, Australia, 2009

Bruce was part of a Greening Australia team which conducted surveys of Brigalow and SEVT regrowth on the Origin owned Spring Gully and Scott's Creek properties in the Injune district. Assessments involved regional ecosystem identification, measurement of structural characteristics and preparation of a report and recommendations on perceived offset potential in the lead up to the release of the Qld Biodiversity Offset Policy.

GAQ Rural – Vegetation Management Consultancy

Greening Australia Queensland, Queensland, Australia, 2007-2009

Bruce provided and oversaw a range of land management projects aimed at helping landholders comply with the Queensland Vegetation Management Act 1999 and VMOLA 2004 while at the same time enabling them to run their rural businesses in line with best management practices. Bruce was involved in a number of initiatives from preparing and presenting workshops on the VMA, providing PMAV (Property Map of Assessable Vegetation) services to landholders, completing map change applications on behalf of landholders, delineation of regional ecosystems and management advice to landholders.

Bunya Biolink – Cooyar Creek Riparian Zone Rehabilitation

Caring For Our Country, Commonwealth of Australia, 2008-2009

Bruce project managed the on-ground component of this Greening Australia project in the headwaters of the Brisbane River catchment. Key tasks involved initial community engagement with ongoing update meetings, full financial planning and disbursement of commonwealth funding, oversight of work program, organisation of project inputs, and input into reporting and financial reconciliation. A significant portion of the project involved the on-ground management of a weed control program and subsequent rehabilitation effort which involved replanting with locally provenanced canopy species.



Melody Stoneham Principal Consultant

Qualifications

Bachelor of Science (Australian Environmental Studies) major in Ecology and Environmental Planning - Griffith University (1999)

BSc (First Class Honours) Terrestrial Ecology, Griffith University (2001).

Affiliations

Member of Ecological Society of Australia

Certified Environmental Practitioner (CEnvP)

Special skills

Australian Flora Families

Grass Identification (QUT)

Venomous Snake Relocation

Advanced 4WD

Senior First Aid

Certified Open Water Diver 2009

Published and Technical Papers

Stoneham, MB (2001) *The influence of stream-dwelling predators on the distribution and density of Mixophyes tadpoles in South-east Queensland*. Honours Thesis. Griffith University.

Hero J-M, M Stoneham (2005) *Bufo marinus*. Pp 417 – 422. In MJ Lanoo (Ed) *Amphibian Declines: The Conservation Status of United States Species*. University of California Press.

Career History

Melody Stoneham has over 15 years experience as an environmental professional within local government and private industry. Melody has participated in the management and delivery of environmental education programs, State of Environment reporting, local law review and community consultation within a local government context.

As an environmental consultant, Melody has worked in Queensland, New South Wales and Victoria with both government and private clients. Her project experience includes: linear infrastructure (particularly road and rail), natural resources (mining & CSG), residential development, master planning, ecotourism facilities, coastal development, establishment of conservation areas and rehabilitation programs, management of wetlands within the context of water sensitive urban design (WSUD), water infrastructure and desalination facilities. Melody is practiced in the assessment and management of terrestrial and aquatic ecosystems.

Melody's background in environmental science and ecology allow her to integrate elements of ecological sustainability into all assessment and consultation projects.

Areas of expertise:

- Environmental Impact Assessment
- Environmental Planning & Management
- Environmental Design & Compliance
- Flora Assessment & Management
- Fauna Assessment & Management
- Environmental Offsets (vegetation & biodiversity)
- Bushfire Hazard Assessment & Management
- Environmental legislation

Project Experience

Environmental Impact Assessment, Environmental Management & Permitting

Melody has regularly worked as part of a multidisciplinary team in the various stages of many projects. She has project managed and participated in studies on vegetation, terrestrial fauna, aquatic fauna and water. Melody's ecological background enables her to contribute to the project design through recommendations for minimising environmental damage and she has been involved in the production and delivery of several Environmental Impact Assessments (EIA's), Environmental Management Plans (EMPs) and Environmental Design Reports (EDRs) for large projects. Melody frequently has an advisory role focussed on compliance of the design with current environmental legislation.

Transport

- Lockyer Valley road repairs – Lockyer Valley – Lockyer Valley Regional Council – threatened flora surveys in accordance with NC Act guideline and pre-construction activities.
- Behm Creek bridge replacement – Jacobs Well – Department of Transport & Main Roads (DTMR) – ecological component of EAR.
- Goat Track flood reparation – Mt Nebo – Moreton Bay Regional Council – completion of targeted survey and management plan for threatened Lowland Rainforest and Queensland Nut.
- Tilley Road Extension – Wynnum - Brisbane City Council – fauna component of ecological assessment.
- Central Queensland Integrated Rail Project (CQIRP) – Central Queensland - QR National – lead for terrestrial ecology and matters of national environmental significance (MNES) component of EIS.
- Dohles Rocks Road overpass – Moreton Bay Region - Department of Transport & Main Roads (DTMR) - Environmental Approvals Report (EAR).
- Transport Network Reconstruction Program (TNRP) – Qld –DTMR – development of environmental filtration system for assessment and permitting. Conducting ecological assessments.
- Pacific Highway Upgrade – Glenugie - NSW – Roads and Traffic Authority (RTA) – Construction Environmental Management Plan.
- Aldoga – Moura Rail Link Corridor (significant project) – QR National – clearing permit.
- Bruce Highway Realignment - Traveston Crossing, Qld – DTMR – clearing permit.

- Moreton Bay Rail Link (Petrie to Kippa-Ring passenger rail) - DTMR – Initial Assessment Report (IAR), Final Assessment Report (FAR) and referral under the federal *Environment Protection and Biodiversity Conservation Act 1999*.
- Olsen Avenue upgrade – Gold Coast, Qld - DTMR – compliance with clearing permits.
- Landsborough to Nambour rail corridor (significant project) - Sunshine Coast, Qld – DTMR – ecology lead for EIS
- Caloundra to Maroochydore rail corridor (CAMCOS) - Sunshine Coast, Qld – DTMR – ecology lead for EIS

Mining, Oil & Gas

- Broughton mine project – U & D Mining ecology lead for EIS
- Hail Creek mine expansion project – Rio Tinto – technical review of aquatic ecology report for EIS
- Meteor Downs South mine project – U & D Mining – BioCondition assessments and offsets strategy under EPBC Act.
- Meteor Downs South mine project –U & D Mining - targeted threatened grass survey for EIS supplement.
- New Acland Mine expansion – New Hope – flora assessments (including BioCondition) for EIS and offsets. Targeted fauna surveys for threatened species.
- Dawson Mine expansion – Anglo American – fauna assessments for EIS
- Arrow Surat Pipeline & Arrow Bowen Pipeline, Arrow Energy – vegetation assessments, weed management plans, offset management plans and species management plans.
- Arrow Bowen Pipeline (ABP) - Bowen Basin - Arrow Energy- flora assessments for contribution to an EIS
- Arrow Surat Pipeline (ASP) – Surat Basin – Arrow Energy – flora and fauna assessments for contribution to an EIS
- Secondment to Arrow Energy – Brisbane – Arrow Energy – development of systems for flora and fauna assessment of proposed infrastructure sites in compliance with EA and undertaking flora and fauna assessments
- Rolleston Coal Mine, Rolleston Coal Joint Venture – fauna and matters of national environmental significance (MNES) chapter of EIS
- Chinchilla and Miles gas fields, Origin Energy – ecological assessment and reporting.

- Hail Creek Mine, Rio Tinto – bio-condition and rehabilitation monitoring and reporting.

Power & Energy

- Bannockburn high pressure gas main repair and realignment, Albert River – APA Group – prescribed tidal works permit
- Tully 275/132kV site expansion project – Jarra Creek Road, Tully – Powerlink – lead ecologist and field ecologist for EIS
- Acacia Ridge substation – Leoroyd Road, Acacia Ridge – Powerlink - vegetation assessment and clearing permits
- River Heat-rejection System - 111 Eagle Street, Brisbane - Urbis Pty Ltd – assessment of impacts of heat dispersion into the Brisbane River

Water

- Mer Island sewerage upgrade - Department of Aboriginal and Torres Strait Islander Partnerships - threatened flora survey in accordance with NC Act guideline
- Bellbird Park pump station upgrade - Queensland Urban Utilities (QUU) – threatened flora survey in accordance with NC Act guideline
- Pimpama River Active Floodgate Management Study – Gold Coast City Council – investigations of potential impacts on terrestrial fauna
- SEQ Desalination Siting – Queensland Water Commission (QWC) – options analysis for proposed SEQ desalination plant
- Lockyer Valley Purified Recycled Water (PRW) Study – SEQ Water Grid – impact assessment on effect of re-watering aquatic ecosystems
- Gladstone – Fitzroy Pipeline – Gladstone Area Water Board (GAWB) – impact assessment

Industrial Development

- Komatsu Industrial Facility – Wacol – Pradella Constructions – Vegetation Management Strategy
- Ebenezer Industrial Estate – Ipswich – Diverse Property Solutions – Vegetation Management Plan and permitting

Department of Defence (Australia)

- RAAF Base Amberley – Department of Defence - Koala Assessment and Management Plan

Department of Housing (Queensland)

- Basil Stafford Centre extension and access – Wacol – Department of Housing and Public Works – Koala Assessment and Management Plan

Residential Development

- Miles Platting Road – Rochedale – Urbis –

Ecological Assessment Report

- Multi-unit Dwellings – Capalaba – ACH Architects – Koala Management Plan
- Bellvista II - Caloundra, Qld – Stockland - Ecological Assessment & EPBC referral
- Burbank Hindu Temple – Hindu Mandir Association – Vegetation Management Plan and clearing permits
- Rural residential development – Dayboro – THG Resource Strategists – vegetation assessment and bushfire management planning
- Mossman Gorge Visitor Transit Centre - Indigenous Land Corporation (ILC) - EPBC referral and state permitting
- Caloundra Downs Masterplanned Community - Caloundra, Qld - Stockland - EPBC referral

Airports and aeronautical infrastructure

- New Parallel Runway - Brisbane Airport, Qld – Brisbane Airport Corporation – audit of offsets for Lewin's Rail.
- Navigational tower for Rockhampton airport – Princhester, Qld – Indra Australia – flora surveys for threatened species and vegetation mapping.
- Runway extension and airport expansion – Coolangatta, Qld & NSW – Gold Coast Airport - flora and fauna assessment for EIS.
- Sand Dredging for Aeronautical Purposes – Brisbane Airport - Brisbane Airport Corporation (BAC) - Environmental Assessment Report (EAR).

Conservation Management Planning

Melody has provided technical input and undertaken the role of project manager for a variety of projects for conservation initiatives. These conservation initiatives have included: establishment of conservation areas, rehabilitation programs, eco-sensitive tourist facilities, environmental offsets and economic evaluation of ecosystem services to secure funding for land management. In undertaking these projects, Melody has undertaken field investigations to identify core ecological values and past / present threats. It is then possible to suggest mitigation and management in the form of land-use planning, environmental design, construction and operational activities.

Relevant conservation management planning experience includes:

- Anglicare retirement facility – Taigum, Qld, Cusp Landscaping – rehabilitation plan for an environmental protection zone
- Caloundra Downs - Caloundra, Qld, Stockland – development of a Conservation Strategy

- Richlands – Brisbane City Council - Wetland Rehabilitation Plan 2007 – 2010
Arup - Senior Ecologist
- Funding submission for Parks Victoria - Western Victoria – Parks Victoria - economic evaluation of on-ground management and conservation benefits provided by Parks Victoria using environmental economics methodology. 2004 – 2007
PLACE Design Group - Environmental Planner
- Skywalk – Mt Tamborine – vegetation assessment, permitting and Vegetation Management Plan. 2001 – 2003
Logan City Council - Environment Management Officer
- Offset Assessment – Ecofund - South-east Queensland – assessment of proposed offsets

Conferences

Fire & Biodiversity Consortium – Bushfire Planning

Mitigation Mythbusters (EIANZ)

The new Queensland State Planning Policy (EIANZ)

Federal Listing of Koala (Enviro)

BioCondition Assessment (EIANZ)

Regulated Regrowth (QELA)

Achieving Biodiversity Outcomes (EIANZ)

Koala State Planning Policy (SPP 2/10) & State Planning Regulatory Provisions (UDIA)

Ecology of Urban Lakes (Healthy Waterways)

Training

Australian Flora Families (LAMR Pty Ltd)

Grass Identification (QUT)

Venomous Snake Relocation Course (ERD)

BioCondition Assessment Training (Qld Herbarium)

Regional Ecosystem Training (Qld Herbarium)

Introduction to Water Sensitive Urban Design (Healthy Waterways)

Concept Design of Water Sensitive Urban Developments (Healthy Waterways)

Senior First Aid & CPR (St John's Ambulance)

4WD Training

GIQ Coal Surface Induction (Standard 11)

General Safety Induction (Construction) - Blue Card

Professional History

2012 – present

Gaia Environmental Consulting -Director / Principal

2010 – 2012

AECOM- Senior Environmental Scientist

David Moore

Principal Environmental Scientist

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Satellite: 0414 918 605
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12 Lauren Drive, Buderim QLD 4556
PO Box 1298, Mooloolaba QLD 4557



Overview

David is an environmental scientist with over 15 years of experience in ecology, environmental impact assessment and management. He combines scientific knowledge with industry experience to devise practical impact mitigation and management measures to facilitate sustainable development. David has developed skills across a broad range of environmental sciences including aquatic and terrestrial ecology, soil and water management. He has applied these skills across many sectors including water, transport, agriculture, waste, Defence, coal seam gas, mining, power generation and transmission.

David maintains relevant construction, petroleum and mining industry inductions, and has gained substantial experience in the environmental aspects of a broad range of projects. This includes site secondment in the roles of Senior Environmental Advisor and Environment Superintendent for BMA Coal, as well as Environmental Advisor and Ecologist roles for Origin Energy.

In addition to his work history, David holds a Bachelor of Applied Science in Ecology and Environmental Science (with majors in Water Science and Vegetation & Wildlife Ecology). He is an Accredited Ecologist for the Australian River Assessment System (AusRivAS), a Senior Operator in electrofishing practice, a Certified Environmental Practitioner, and a 'suitably qualified ecologist' as recognised by the Commonwealth Department of the Environment.

Competencies

- Strong personal commitment to safety & the environment
- Extensive project management experience
- Practical and analytical problem solving abilities
- Effective leadership, communication & interpersonal skills

Qualifications

Bachelor of Applied Science
(Ecology & Environmental Science),
University of Canberra, 2002

Certified Environmental Practitioner,
Environment Institute of Australia
and New Zealand, since 2009

Australian River Assessment
System (AusRivAS) Accreditation,
University of Canberra, 2004

Senior Operator in Electrofishing
Practice, Aquateco Consulting, 2008

UAV Controller and Operator, Civil
Aviation Safety Authority, 2015

Areas of expertise

Environmental impact assessment

Ecology

Water quality

Permits and Approvals

QUEENSLAND:

Scientific User Registration 521

Animal Ethics Committee Approval
CA 2017/03/1043

Scientific Purposes Permit
WISP14748714

General Fisheries Permit 192554

Rehabilitation Permit WA0002595
(Spotter Catcher)

NEW SOUTH WALES:

Animal Care Ethics Committee
Animal Research Authority

NPWS Scientific Licence SL101497

DPI Fisheries Scientific Collection
Permit P14/0041-1.2

Insurances

Professional Indemnity \$5M

Public Liability \$20M

Aviation (UAV) operations \$10M

Workplace Personal Injury
Insurance

Employment History

- July 2014 – Present Principal Environmental Scientist / Director
DPM Envirosciences Pty Ltd
Buderim, Queensland
www.dpm-enviro.com.au
- Oct 2012 – July 2014 Principal Ecologist / Team Leader
Ecosure Pty Ltd
Maroochydore, Queensland
www.ecosure.com.au
- Mar 2012 – Oct 2012 Principal Ecologist
Unidel / AMEC Environment & Infrastructure Pty Ltd
Brisbane, Queensland
www.amec.com
- Mar 2007 – Mar 2012 Senior Environmental Scientist
HLA Envirosciences / ENSR / AECOM Australia Pty Ltd
Brisbane, Queensland
www.aecom.com
- Mar 2003 – Mar 2007 Environmental Scientist
Geolyse Pty Ltd
Orange, New South Wales
www.geolyse.com

Volunteer Experience

- 2012 – Present 1300 ANIMAL wildlife rescuer
RSPCA Queensland
- 2011 – 2012 Wildlife Hospital Volunteer
Australia Zoo Wildlife Hospital
- 2003 – 2007 Firefighter (Deputy Captain and Crew Leader)
NSW Rural Fire Service

Licences and Permits

- Driver's Licence (Car, Medium Rigid Truck, Marine, Motorcycle, Recreational Pilot)
- ASIC Airside Security Clearance, Civil Aviation Safety Authority
- UAV Controller and Operator Certificates, Civil Aviation Safety Authority
- Weapons Licence (Category A and B), Queensland
- Chainsaw Licence – Tree Feller, NSW Rural Fire Service
- Senior Operator Electrofishing, Aquateco Consulting
- Scientific Purposes Permits (NSW / QLD) – Terrestrial & Aquatic Ecological Surveys
- General Fisheries Permits (NSW / QLD) – Aquatic Ecological Surveys
- Rehabilitation Permit (QLD) – Fauna Spotter Catcher and Relocation

Training

- NSW Biodiversity Offsets Scheme Accredited Assessors Course (2018)
- Generic Induction (Refresher) Queensland – Coal Surface (2018)
- (Gas) Industry Safety Induction (2018)
- Apply First Aid (2017) and CPR (2017)
- Mining Supervisor training S1, S2 and S3 (2016)
- Fluvial geomorphology and River Styles, Water Technology (2016)
- Sediment and Erosion Control Training: Preparing and Reviewing Sediment and Erosion Control Plans (2014)
- General Induction for Construction (2003)
- Contaminated Machinery Washdown Certification (2013)
- PMASUP236B Operate Vehicles in the Field (2012)
- BMA Defensive Driving, SOPs and Light Vehicle Authorization (2010)
- Drive 4WD Vehicles in Operational Conditions, NSW Rural Fire Service (2006)
- 4WD Recovery – Advanced Techniques, Australian 4WD Driver Training (2009)
- Wildlife Rescue, RSPCA (2012)
- Venomous Snake Relocation, Educational Reptile Displays (2009)
- Wildlife Carer Education – Advanced Bat Handling and Care, BCRQ / RSPCA (2013)
- Wildlife Carer Education – Fractures Management, Dr Howard Ralph (2014)
- Bushfire Fighter (2003), Advanced Firefighter (2005) & Crew Leader – Wildfire (2007), NSW Rural Fire Service
- Developing Future Leaders Program, Australasian Fire Authorities Council (2004)
- Origin Inductions: Module 0&1 HSE Leadership – Upstream and DA Induction (2012), ISSOW Permit System (2014)
- Santos Inductions: Land Access (2013), Eastern Queensland (2013) and Induction Level 1 (2013)
- Arrow Energy CSG Induction (2013)
- Queensland Regional Ecosystem and Vegetation Structure Training (2009), Queensland Herbarium
- Best Practice in Project Management (2009), Chifley Business School
- Bird and Wildlife Hazard Management (2012), Avisure

Referees

Andrew Brownlow, Director and Environment Manager – Geolyse Pty Ltd
(my former manager whilst at Geolyse from 2003 to 2007, now a client)
Phone: 02 6393 5000. Email: abrownlow@geolyse.com

Melody Stoneham, Principal Ecologist – Gaia Environmental Consulting
(my former colleague whilst at AECOM, now an alliance partner)
Phone: 0401 615 454. Email: melody@gaiaenviro.com.au

Key project experience

Date	Project	Client	Project Position	Role
Terrestrial Ecology				
2018	Terrestrial flora and fauna assessments, Central QLD	Resource Strategies	Principal Ecologist	Desktop assessments, flora surveys, field verification of Regional Ecosystems and Threatened Ecological Communities, fauna habitat assessment, comprehensive fauna survey (trapping), targeted fauna survey, preparation of baseline flora and fauna assessment reports, preparation of a baseline offset investigation report and Offset Strategy for the Olive Downs Project in the Bowen Basin.
2017	Contamination investigation, Army Aviation Centre, Oakey, QLD	AECOM	Principal Ecologist	Contribution to ecological and human health risk assessments. Heath assessment of vegetation communities, bird surveys, fauna habitat assessment, mammal dissections, and provision of a technical report.
2016	Former Petrie Cartonboard Mill – Ecological surveys and management plans, South East QLD	Peter J Ramsay & Associates / Orora	Ecologist	Field data collection of Restricted weeds; ground-truthing vegetation communities; mapping weed distributions and abundance across the 218 ha property; preparation of vegetation, weed, pest animal and fauna management plans for remediation of the site.
2016	Origin Energy gas field development – Weed surveys, Spring Gully, QLD	Amec Foster Wheeler	Ecologist	Field data collection of Declared weeds across areas to be constructed for gas wells, access tracks and flow lines, to quantify the extent and biomass of Declared weeds requiring removal prior to construction.
2016	Ecological investigations at RAAF Base Williamtown, NSW	AECOM	Ecologist	Fieldwork, fauna habitat assessment and provision of a technical report to inform the fauna usage of waterways and adjoining habitats of the study area.
2016	Origin Energy gas field development – Weed surveys, Wandoan, QLD	Amec Foster Wheeler	Ecologist	Field data collection of Declared weeds across areas to be constructed for gas wells, access tracks and flow lines, to quantify the extent and biomass of Declared weeds requiring removal prior to construction.
2015	Proposed expansion of the Daroobalgie Landfill – Ecological Constraints Assessment, Central West NSW	Forbes Shire Council	Ecologist	Fieldwork (floristic surveys, vegetation mapping, fauna habitat assessment, fauna surveys), ecological constraints assessment and provision of a technical report to inform a potential property acquisition.
2015	Proposed Orange to Carcoar potable water pipeline – Flora, fauna and aquatic ecology assessments, Central West NSW	Geolyse	Ecologist	Fieldwork (floristic surveys, vegetation mapping, fauna habitat assessment, fauna surveys, aquatic habitat assessment), impact assessment and provision of a technical report to inform the Review of Environmental Factors.
2015	Mineral Hill Mine – Ecological Impact Assessments for Exploration Drilling, Condobolin, NSW	KBL Mining	Ecologist	Ecological impact assessment of proposed surface disturbance in relation to vegetation, flora and fauna species. Completion of Assessments of Significance (7-part tests) for six threatened fauna species. Provision of advice in relation to impact mitigation.
2015	Mineral Hill Mine – Surface preparations for the new Pearse Pit and Pearse Waste Rock Emplacement, Condobolin, NSW	KBL Mining	Ecologist and vegetation clearing crew supervisor	Development of a vegetation clearing procedure, demarcation of vegetation clearance and retention areas, fauna pre-clearance surveys/checks, direction of clearing operations with bulldozer and excavator, fauna spotter catcher activities.

Date	Project	Client	Project Position	Role
2015	Arrow Bowen Pipeline – Terrestrial fauna surveys, QLD	Ecosure	Ecologist	Assistance with detailed (trapping) post-wet season fauna surveys and habitat assessments over a two-week period.
2012	Australia Pacific LNG Western High Pressure Gas Network – Terrestrial Fauna Survey, South QLD	Australia Pacific LNG	Field Team Leader and Terrestrial Ecologist	Habitat assessment and fauna survey using Anabat, harp traps, pit-fall traps, ground Elliot traps, baited camera traps, active reptile searches, spotlighting, morning and evening bird surveys.
2011	Arrow Bowen Pipeline – Flora Survey, Central QLD	Arrow Energy	Senior Environmental Scientist	Flora ecologist ground-truthing Regional Ecosystems, undertaking targeted flora searches and weed inventories for the EIS.
2010	Arrow Surat Pipeline Header – Flora Survey, South QLD	Arrow Energy	Field Ecologist	Ground-truthing of Regional Ecosystems, targeted flora searches and weed inventories.
2008	Origin Energy Darling Downs Power Station Site – Threatened Species Translocation and Monitoring: <i>Philotheca sporadica</i>	Origin Energy	Project Manager and Senior Environmental Scientist	Management of Commonwealth and State approvals, on-ground translocation works and monitoring the translocation success of the Vulnerable Kogan waxflower (<i>P. sporadica</i>) using a combination of techniques (direct relocation, relocation via an intermediate site, propagation via cuttings and direct strike, propagation via cuttings and tissue culture); twice monthly monitoring and reporting for 18 months; final data analysis and reporting.
Surface Water and Aquatic Ecology				
2018	Aquatic ecology impact assessment, Olive Downs Project, Central QLD	Resource Strategies	Principal Aquatic Ecologist	Desktop assessment, field investigations and preparation of an aquatic ecology assessment to inform an EIS for the proposed Olive Downs Project in the Bowen Basin. Subsequent preparation of an Offset Strategy involving wetlands of High Ecological Significance (HES wetlands).
2018	Stream health monitoring, Macquarie River and Summer Hill Creek, NSW	Geolyse / Orange City Council	Principal Aquatic Ecologist	Stream health monitoring in accordance with NSW AusRivAS protocols, using macroinvertebrates as bio-indicators of stream health, to satisfy regulatory requirements and project commitments associated with Orange City Council's water supply augmentation.
2018	Receiving Environment Monitoring Program, Lady Annie Mine, Mt Isa, QLD	EMM Consulting / CST Minerals	Principal Aquatic Ecologist	Implementation of the 2018 Receiving Environment Monitoring Program, including water and sediment sampling, macroinvertebrate sampling, aquatic habitat assessment and reporting, associated with an acid leaching copper extraction facility.
2018	Baseline aquatic habitat assessments, Rolleston, QLD	Golder	Principal Aquatic Ecologist	Desktop and field investigations to inform a subsequent impact assessment for a coal seam gas project.
2018	Contamination investigation, RAAF Base Richmond, NSW	AECOM / Defence	Principal Aquatic Ecologist	Contribution to the ecological and human health risk assessment of PFAS. Sampling freshwater invertebrates and freshwater fish, sample processing, stream health assessment following NSW AusRivAS protocols, in-situ water quality measurement, habitat assessment and reporting on behalf of AECOM.

Date	Project	Client	Project Position	Role
2017	Contamination investigation, RAAF Base Williamtown, Newcastle, NSW	AECOM / Defence	Principal Aquatic Ecologist	Contribution to the ecological and human health risk assessment of PFAS. Sampling surface water, sediment, marine invertebrates, marine fish, freshwater invertebrates and freshwater fish, sample processing, stream health assessment following NSW AusRivAS protocols, in-situ water quality measurement, habitat assessment, and reporting on behalf of AECOM.
2017	Contamination investigation, Army Aviation Centre, Oakey, QLD	AECOM / Defence	Principal Aquatic Ecologist	Contribution to the ecological and human health risk assessment of PFAS. Sampling freshwater fish and aquatic macroinvertebrates, stream health assessment following Queensland AusRivAS protocols, targeted fish sampling using backpack and boat-based electrofishing techniques, sample processing, in-situ water quality measurement, habitat assessment, and reporting on behalf of AECOM.
2017	Environmental flow riffle monitoring, Summer Hill Creek, Orange, NSW	Geolyse / Orange City Council	Principal Environmental Scientist and UAV Operator	Riffle habitat mapping of high and low flow environmental releases using a Remotely Piloted Aircraft, data analysis using Pix4D Mapper Pro and ArcGIS to efficiently ground-truth the HEC-RAS model and demonstrate that low flow environmental releases are maintaining sufficient riffle habitat to maintain licence conditions in Summer Hill Creek downstream of Orange's main water supply dam.
2016	Fish survey, Evans Head Memorial Aerodrome, NSW	Mitch Hanlon Consulting	Principal Aquatic Ecologist	Backpack electrofishing to characterise the fish community of waterways within an area proposed for development of the Evans Head Air Park.
2016	Water quality monitoring, Pumicestone Creek, Caloundra, QLD	Rob Carr Engineering	Project manager	Water quality monitoring upstream and downstream of works on a tidal reach of Pumicestone Creek, to assess the impacts of pipeline placement works using a coffer dam and flume pipe.
2016	Aquatic ecology impact assessment, Cameby, QLD	Resource Strategies	Principal Aquatic Ecologist	Field investigations and preparation of an aquatic ecology impact assessment for the proposed modification and continuation of operations at the Cameby Downs (Coal) Mine. Also preparation of a Receiving Environment Monitoring Program (REMP) Design Document.
2016	Assessment of waterway barrier to fish passage, confidential end-client, QLD	AECOM	Principal Aquatic Ecologist	Site visit, assessment of stream geomorphology, fish survey and provision of advice relating to fish passage.
2016	Brisbane City Council Telegraph Road Upgrade, QLD	AECOM	Principal Aquatic Ecologist	Aquatic ecological assessment, including sampling of macroinvertebrates, fish, macrophytes and targeted frog surveys to inform practical impact mitigation measures for stream diversions and realignments.
2016	Contamination investigation, Army Aviation Centre, Oakey, QLD	AECOM	Principal Aquatic Ecologist	Targeted fish sampling using boat-based electrofishing techniques, sample processing, water quality assessment, habitat assessment, and processing of other biota samples on behalf of AECOM.

Date	Project	Client	Project Position	Role
2015	Origin Energy gas field development – Aquatic Ecological Assessments, QLD	Amec Foster Wheeler	Principal Aquatic Ecologist	Field investigations, impact assessment and reporting of aquatic ecological values in various development areas of the Surat Basin in the vicinity of Miles, Spring Gully and Wandoan. The field surveys and resulting report assessed aquatic macroinvertebrate community compositions; fish and turtle species compositions, age structures and general health; aquatic flora species composition; physical habitat assessment; and a description of likely impacts of an unplanned CSG water spill on identified aquatic ecological values.
2015	Cowra Heavy Vehicle Bypass – Aquatic and Terrestrial Ecology Impact Assessment, NSW	Geolyse	Principal Ecologist	Field investigations and preparation of an aquatic and terrestrial ecology impact assessment for the proposed bypass road and bridge crossing of the Lachlan River.
2014-2015	Arrow Bowen Pipeline (ABP) – Aquatic Values Surveys, QLD	Ecosure	Principal Aquatic Ecologist	Led aquatic ecological surveys of watercourses of stream order 3 and above intersected by the proposal ABP alignment. The surveys were undertaken over two weeks in the 'early wet' season, then repeated in the 'late wet' season, to inform an Aquatic Values Survey Report and an Aquatic Values Management Plan for the project. Field surveys focused on aquatic habitat assessment, macroinvertebrate sampling, fish and turtle sampling.
2015	Rio Tinto Coal Australia Hail Creek Transition Project – Aquatic Ecology Impact Assessment, QLD	Resource Strategies	Principal Aquatic Ecologist	Prepared an aquatic ecology impact assessment to form part of a broader Environmental Assessment Report for the Project.
2014	Queensland Energy Resources Aquatic Ecology and Stygofauna Baseline Assessments, Gladstone QLD	Resource Strategies	Project Manager and Principal Aquatic Ecologist	Project management, fieldwork and reporting for an aquatic ecological assessment and stygofauna sampling within and surrounding the proposed development site.
2012-2014	Arrow Surat Pipeline (ASP) – Aquatic Values Surveys and Management Plans, QLD	Arrow Energy	Principal Aquatic Ecologist	Project management, fieldwork and reporting associated with aquatic ecological surveys of watercourses (of stream order 3 and above) intersected by the proposal ASP alignment. The surveys were undertaken in the AusRivAS 'early wet' and 'late wet' sampling seasons. An Aquatic Values Survey Report and an Aquatic Values Management Plan were prepared based on the desktop and field findings. Some minor realignments were proposed to avoid areas of high aquatic ecological value. These were discussed with the client while the team was still on site. Field surveys focused on aquatic habitat assessment, aquatic plants, macroinvertebrate sampling, fish sampling, turtle sampling, and habitat assessment for platypus and turtle breeding places.
2013-2014	Defence South Queensland Water Quality Monitoring Program, South East QLD	Spotless	Project Manager and Principal Aquatic Ecologist	Project management, fieldwork and reporting. Undertake seasonal water and sediment quality sampling within the Evans Head Air Weapons Range, interpretation of results and reporting.
2013-2014	Paragon Coal T9 West Project – Baseline Aquatic Ecological Assessment, South East QLD	Resource Strategies	Project Manager and Principal Aquatic Ecologist	Project management, fieldwork and reporting, including scoping, baseline assessment and reporting on aquatic values within the T9 West project area, Tiaro.

Date	Project	Client	Project Position	Role
2013	Aquatic Ecological Investigation following sediment release event, South QLD	(Confidential client)	Principal Aquatic Ecologist	Project management, fieldwork and reporting. Legally privileged investigation and assessment of ecological impacts following sedimentation of a high value watercourse.
2013	Watercourse pre-clearance inspections, South and Central QLD	Saipem	Principal Aquatic Ecologist	Project management, fieldwork and reporting. Pre-construction site inspections by an aquatic ecologist at 14 watercourse crossings.
2012-2013	Byerwen Coal Mine Aquatic Ecological Impact Assessment, Central QLD	QCoal	Principal Aquatic Ecologist	Technical lead, fieldwork and reporting. Baseline survey and impact assessment of waterways and wetlands within the proposed Byerwen Coal Mine project area.
2012-2013	Australia Pacific Liquefied Natural Gas Western High Pressure Gas Network (WHPGN) – Aquatic Values Survey and Management Plan, South QLD	Australia Pacific LNG	Principal Aquatic Ecologist	Technical lead, fieldwork and reporting associated with aquatic ecological surveys at 64 waterway crossings intersected by the proposed WHPGN. Field surveys were undertaken to inform the Preparation of an Aquatic Values Survey Report and an Aquatic Values Management Plan, as part of the broader Environmental Management Plan for the project. Field surveys focussed on aquatic habitat assessment, aquatic plants, macroinvertebrate sampling, fish sampling, turtle survey, and habitat assessment for platypus and turtle breeding places.
2012	SunCoast 132kV Power Project – Platypus Management Plan, South East QLD	ENERGEX	Principal Ecologist	Development of management measures to negate impacts of pole placement on platypus.
2012	Hutton Creek targeted aquatic fauna survey and management plan, South QLD	Saipem	Project Manager and Principal Aquatic Ecologist	Project management, fieldwork and reporting for targeted platypus and turtle survey on Hutton Creek and preparation of a management plan prior to construction of the GLNG Gas Transmission Pipeline.
2012	Water quality monitoring on the Nerang River, South East QLD	Gold Coast Barges	Project Manager and Principal Aquatic Ecologist	Project manager, report structure and technical review. Development and implementation of baseline sampling and a weekly water quality monitoring program for the duration of an erosion mitigation project on the Nerang River.
2012	Roma to Brisbane Pipeline duplication – Aquatic Values Survey and Management Plan, South East QLD	APA Group	Principal Aquatic Ecologist	Technical lead, fieldwork and reporting. Habitat assessment and aquatic flora surveys for the proposed duplication of the Roma Brisbane Pipeline.
2011-2012	Proposed Monto Coal Mine – Aquatic Ecology Impact Assessment, Central QLD	Macarthur Coal	Senior Environmental Scientist	Technical lead and fieldwork. Baseline survey and impact assessment of waterways and wetlands of the Mining Lease Area encompassing the proposed Monto Coal Mine.
2011	Ecological characterisation of the Cobourg Peninsula Ramsar Wetlands, NT	Department of the Environment	Senior Environmental Scientist	Marine field team lead, including assessment of fish and macroinvertebrate community composition of representative marine and estuarine wetlands of the Cobourg Peninsula Ramsar Wetlands.
2011	Aquatic Ecology Impact Assessment for Proposed Gas Fields, NSW	Eastern Star Gas	Senior Environmental Scientist	Technical lead, fieldwork and reporting. Aquatic ecological assessment for proposed gas fields and surface water discharges as part of the project EIS for gas field development in the Pilliga Nature Reserve, NSW.

Date	Project	Client	Project Position	Role
2011	Contaminant bioaccumulation assessment of intertidal wetlands bordering the Brisbane Airport.	Airservices Australia	Technical lead, including fieldwork and reporting.	Development and implementation of a contaminant bioaccumulation experiment (with reference sites and controls) using oysters. Sampling and assessment of macroinvertebrates and fish tissue and organs.
2009, 2011	BMA Norwich Park Mine - Sediment and Biological Monitoring Program, Central QLD	BMA Coal	Project Manager and Senior Environmental Scientist	Development and implementation of a biological monitoring program. Habitat assessment and collection of macroinvertebrates, data analysis and reporting.
2010-2011	Proposed Foxleigh Plains Mine – Aquatic Ecology Impact Assessment, Central QLD	Anglo Coal	Project Manager and Senior Environmental Scientist	Technical lead, fieldwork and reporting. Baseline surveys and impact assessment of waterways transecting the proposed expansion area.
2010-2011	BMA Norwich Park Mine – Secondment, Central QLD	BMA Coal	Project Manager and Seconded	Senior Environmental Advisor and Acting Environment Superintendent.
2010	Effluent discharge investigation at RAAF Base Amberley, South East QLD	Spotless	Senior Environmental Scientist	Technical lead, fieldwork and reporting. Sediment, surface water and macroinvertebrate sampling, data analysis and reporting to assess the level of impact of treated effluent discharge upon receiving waters.
2008-2010	Defence South Queensland Water Quality Monitoring Program, South East QLD	Spotless	Senior Environmental Scientist	Technical lead, fieldwork and reporting. Twice-yearly macroinvertebrate sampling, analysis and reporting for Amberley RAAF Base and Canungra Field Training Area.
2009	Lihir Gold Mine, PNG – Aquatic and Terrestrial Ecology Impact Assessment	Lihir Gold	Senior Environmental Scientist	Field team lead and reporting. Ecological surveys for a proposed dam on the Hurtol River to supply water to the mine processing plant.
2009	Greenbank Training Area Aquatic Ecological Impact Assessment, South East QLD	Defence	Senior Environmental Scientist	Technical lead, fieldwork and reporting. Desktop, field surveys and impact assessment to characterise aquatic ecological values of waterways draining areas of proposed training infrastructure development at the GBTA.
Site Secondment Roles				
2014-2015	Origin Energy gas field development – Surat Basin, QLD	Amec Foster Wheeler	Environment Advisor	Ensure consistency of on-ground works with work packages issued by Origin Energy, present environment considerations daily at toolbox talks, pre-clearance surveys and checks, weed identification and management, monitoring and refinement of sediment and erosion controls.
2014-2015	Origin Energy Gas Field Development, QLD	Amec Foster Wheeler	Fauna Spotter Catcher	Pre-clearance stage fauna and breeding place relocation; clearing stage fauna salvage, relocation, first aid and euthanasia; monitoring of open excavations; water quality measurement, volume calculations and provision of advice on pit water management.
2010-2011	BMA Norwich Park Mine – Secondment, Central QLD	BMA Coal	Senior Environment Advisor Acting Environment Superintendent	Delegate tasks to team members; monitor surface water, groundwater, air quality and rehabilitation success; manage the mine water balance; monitor the quality and quantity of discharges and receiving waters; investigate and complete planning and approvals for pipeline watercourse crossings and new haul road.

Appendix B: Database search results



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 11/07/18 10:36:04

[Summary](#)

[Details](#)

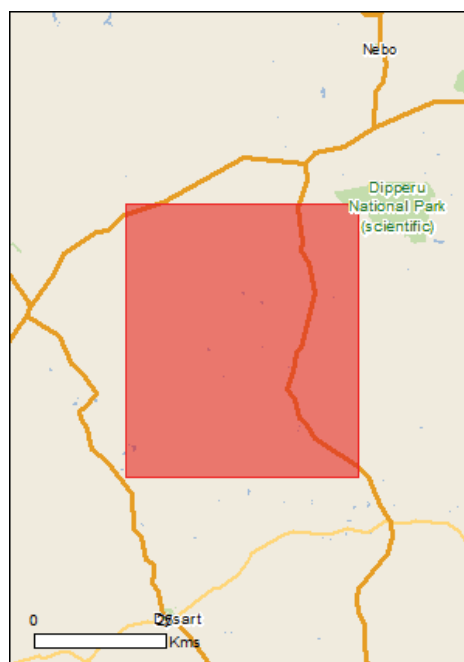
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

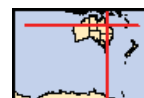
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

Buffer: 1.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	25
Listed Migratory Species:	13

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	19
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	20
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[[Resource Information](#)]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Brigalow (Acacia harpophylla dominant and co-dominant)	Endangered	Community known to occur within area
Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin	Endangered	Community likely to occur within area
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	Community likely to occur within area

Listed Threatened Species

[[Resource Information](#)]

Name	Status	Type of Presence
Birds		

Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Erythroriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat known to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Neochmia ruficauda ruficauda Star Finch (eastern), Star Finch (southern) [26027]	Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Poephila cincta cincta Southern Black-throated Finch [64447]	Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area

Mammals

Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species

Name	Status	Type of Presence
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	habitat likely to occur within area Species or species habitat may occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat known to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Plants

Cycas ophiolitica [55797]	Endangered	Species or species habitat likely to occur within area
Dichanthium queenslandicum King Blue-grass [5481]	Endangered	Species or species habitat may occur within area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus raveretiana Black Ironbox [16344]	Vulnerable	Species or species habitat likely to occur within area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area

Reptiles

Denisonia maculata Ornamental Snake [1193]	Vulnerable	Species or species habitat known to occur within area
Egernia rugosa Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area
Elseya albagula Southern Snapping Turtle, White-throated Snapping Turtle [81648]	Critically Endangered	Species or species habitat likely to occur within area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
Lerista allanae Allan's Lerista, Retro Slider [1378]	Endangered	Species or species habitat may occur within area
Rheodytes leukops Fitzroy River Turtle, Fitzroy Tortoise, Fitzroy Turtle, White-eyed River Diver [1761]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species	[Resource Information]	
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Anseranas semipalmata		
Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur

Name	Threatened	Type of Presence
Ardea alba Great Egret, White Egret [59541]		within area Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves		[Resource Information]
Name		State
Dipperu		QLD

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		

Name	Status	Type of Presence
Acacia nilotica subsp. indica Prickly Acacia [6196]		Species or species habitat may occur within area
Cryptostegia grandiflora Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]		Species or species habitat likely to occur within area
Jatropha gossypifolia Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large- leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Vachellia nilotica Prickly Acacia, Blackthorn, Prickly Mimosa, Black Piquant, Babul [84351]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-21.9347 148.2581,-21.9347 148.6557,-22.3653 148.6557,-22.3653 148.2581,-21.9347 148.2581

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.



Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Defined Area
Species: All
Type: Native
Status: Rare and threatened species
Records: All
Date: All
Latitude: 21.9347 to 22.3653
Longitude: 148.2581 to 148.6557
Email: dmoore@dpm-enviro.com.au
Date submitted: Tuesday 10 Jul 2018 16:54:39
Date extracted: Tuesday 10 Jul 2018 17:00:12

The number of records retrieved = 5

Disclaimer

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Feedback about Wildlife Online should be emailed to wildlife.online@science.dsitia.qld.gov.au

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		V	V	2
animals	reptiles	Elapidae	<i>Acanthophis antarcticus</i>	common death adder		V		1
animals	reptiles	Elapidae	<i>Denisonia maculata</i>	ornamental snake		V	V	4
plants	higher dicots	Capparaceae	<i>Capparis humistrata</i>			E		1/1
plants	higher dicots	Mimosaceae	<i>Acacia spania</i>			NT		1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ().

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*. The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.

This number is output as 999 if it equals or exceeds this value.



Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Defined Area
Species: All
Type: Native
Status: Rare and threatened species
Records: All
Date: All
Latitude: 21.65 to 22.65
Longitude: 147.96 to 148.96
Email: dmoore@dpm-enviro.com.au
Date submitted: Tuesday 10 Jul 2018 16:58:14
Date extracted: Tuesday 10 Jul 2018 17:00:07

The number of records retrieved = 19

Disclaimer

As the DSITIA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

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Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Accipitridae	<i>Erythrotriorchis radiatus</i>	red goshawk		E	V	1
animals	birds	Cacatuidae	<i>Calyptorhynchus lathamii erebus</i>	glossy black-cockatoo (northern)		V		6
animals	birds	Columbidae	<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)		V	V	29
animals	birds	Phaethontidae	<i>Phaethon rubricauda</i>	red-tailed tropicbird		V		1
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		V	V	47
animals	mammals	Pseudocheiridae	<i>Petauroides volans minor</i>	northern greater glider		V	V	22
animals	mammals	Pseudocheiridae	<i>Petauroides volans</i>	greater glider		V	V	5
animals	reptiles	Elapidae	<i>Acanthophis antarcticus</i>	common death adder		V		1
animals	reptiles	Elapidae	<i>Denisonia maculata</i>	ornamental snake		V	V	25
plants	higher dicots	Amaranthaceae	<i>Kelita uncinella</i>			E		1/1
plants	higher dicots	Capparaceae	<i>Capparis humistrata</i>			E		1/1
plants	higher dicots	Combretaceae	<i>Macropteranthes leiocaulis</i>			NT		4/4
plants	higher dicots	Euphorbiaceae	<i>Bertya pedicellata</i>			NT		10/10
plants	higher dicots	Mimosaceae	<i>Acacia spania</i>			NT		1/1
plants	lower dicots	Apocynaceae	<i>Cerbera dumicola</i>			NT		5/5
plants	lower dicots	Solanaceae	<i>Solanum elachophyllum</i>			E		1/1
plants	lower dicots	Solanaceae	<i>Solanum adenophorum</i>			E		1/1
plants	monocots	Poaceae	<i>Dichanthium queenslandicum</i>			V	E	9/9
plants	monocots	Poaceae	<i>Digitaria porrecta</i>			NT		1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ().

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*. The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.

This number is output as 999 if it equals or exceeds this value.

Appendix C: Quaternary flora site assessments

Survey Code	
1	
Location	
Deverill	
Date	
6/03/2018	
Latitude	
-22.1657	
Longitude	
148.3749	
Slope:	
<1°	
Aspect:	
S	
General Site Description	
Landform	Watercourse - Creek
Lithology	Alluvial sediments
Soil	Sand
Height of EDS	35 m
Crown cover	55%
Mapped RE	11.3.25
Observed RE	11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines (BVG 16a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Mid-dense canopy dominated by forest red-gum (<i>Eucalyptus tereticornis</i>) with frequent river she-oak (<i>Casuarina cunninghamiana</i>). Sparse sub-canopy of river she-oak, snow-in-summer (<i>Melaleuca linariifolia</i>) and white bauhinia (<i>Lysiphyllum hookeri</i>). Mid-dense shrub layer dominated by lantana (<i>Lantana camara</i>), with frequent sandpaper fig (<i>Ficus opposita</i>) and white bauhinia. Ground layer dominated by green panic (<i>Megathyrsus maximus</i>).
General Site Observations	Trees form the ecologically dominant stratum; a relatively young community with few hollows; junction of North Creek and Isaac River; good recruitment; normal watercourse erosion, no dieback detected; fire scars absent.
Health	Good

Survey Code	
2	
Location	
Deverill	
Date	
6/03/2018	
Latitude	
-22.1632	
Longitude	
148.3725	
Slope:	
1°	
Aspect:	
SSW	
General Site Description	
Landform	Deposited low rises – old floodplain
Lithology	Alluvial sands (origin undetermined)
Soil	Sandy loam
Height of EDS	Median height 14 m
Crown cover	15%
Mapped RE	11.3.2 / 11.3.7 / 11.3.1 (70 / 25 / 5)
Observed RE	11.3.7 - <i>Corymbia</i> spp. woodland on alluvial plains (BVG 9e)
Biodiversity Status	Of Concern
Dominant vegetation observed	Very sparse woodland dominated by of Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and Dallachy's gum (<i>Corymbia dallachyana</i>), with occasional narrow-leaved ironbark (<i>E. crebra</i>). Very sparse sub-canopy of Sally wattle (<i>Acacia salicina</i>) and Clarkson's bloodwood. Sparse shrub layer composed mostly of Lantana (<i>Lantana camara</i>). Groundcover a mix of buffel grass (<i>Cenchrus ciliaris</i>), windmill grass (<i>Enteropogon ramosus</i>), black spear grass (<i>Heteropogon contortus</i>), green panic (<i>Megathyrsus maximus</i>) and red Natal grass (<i>Melinis repens</i>).
General Site Observations	Trees form the ecologically dominant stratum; very patchy suggesting old fire or clearing impacts, part of the North Creek corridor and on the south eastern edge of a significantly large block of intact vegetation associated with the Isaac River running to the north and west; light sandy loam soils; erosion absent; fire scars absent.
Health	Average

Survey Code	
3	
Location	
Deverill	
Date	
6/03/2018	
Latitude	
-22.1523	
Longitude	
148.3634	
Slope:	
<1°	
Aspect:	
NE	
General Site Description	
Landform	Plain
Lithology	Alluvial sediments
Soil	Loam
Height of EDS	14 m
Crown cover	40%
Mapped RE	11.3.2 / 11.3.7 / 11.3.1 (70 / 25 / 5)
Observed RE	11.3.2 <i>Eucalyptus populnea</i> woodland on alluvial plains (BVG 17a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy of poplar box (<i>Eucalyptus populnea</i>), with a very sparse sub canopy of poplar box and Sally wattle (<i>Acacia salicina</i>). Very sparse shrub layer of Sally wattle, bean tree (<i>Cassia brewsteri</i>) and lantana (<i>Lantana camara</i>). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>). Other species include wiregrass (<i>Aristida calycina</i>), velvet hibiscus (<i>Melhania oblongifolia</i>), red Natal grass (<i>Melinis repens</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; mostly younger trees with some older trees with hollows scattered; north eastern edge of a large block of intact vegetation some 5 km wide at this point and extending along the Isaac River corridor to the north west; moderate level of historical disturbance; moderate recruitment; low erosion; no dieback detected; no fire scars evident.
Health	Good

Survey Code	
4	
Location	
Deverill	
Date	
6/03/2018	
Latitude	
-22.1277	
Longitude	
148.3618	
Slope:	
<1°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Alluvial sediments
Soil	Loam
Height of EDS	18 m
Crown cover	40%
Mapped RE	11.3.2 / 11.3.1 (95 / 5)
Observed RE	11.3.2 <i>Eucalyptus populnea</i> woodland on alluvial plains (BVG 17a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with frequent Sally wattle (<i>Acacia salicina</i>) and occasional carbeen (<i>Corymbia tessellaris</i>). Very sparse sub-canopy of poplar box, Sally wattle and white bauhinia (<i>Lysiphyllum carronii</i>). Sparse shrub layer of Sally wattle, whitewood (<i>Atalaya hemiglauca</i>) and lantana (<i>Lantana camara</i>). Ground layer dominated by green panic (<i>Megathyrsus maximus</i>), with buffel grass (<i>Cenchrus ciliaris</i>), red Natal grass (<i>Melinis repens</i>), tropical sensitive pea (<i>Chamaecrista absus</i>) and velvet hibiscus (<i>Melhania oblongifolia</i>).
General Site Observations	Trees form the ecologically dominant stratum; patchy canopy with some history of disturbance; dead hollow-bearing trees; part of the narrow riparian corridor associated with North Creek; approximately 400 m wide at this point; moderate recruitment; low erosion; no fire scars evident.
Health	Good

Survey Code	
5	
Location	
Deverill	
Date	
06/03/2018	
Latitude	
-22.1082	
Longitude	
148.3658	
Slope:	
<1°	
Aspect:	
S	
General Site Description	
Landform	Closed depression – swamp
Lithology	Alluvial sandstone sediments
Soil	Light clay
Height of EDS	18 m
Crown cover	15%
Mapped RE	Non-remnant
Observed RE	11.3.27f <i>Eucalyptus coolabah</i> and / or <i>E. tereticornis</i> open woodland to woodland fringing swamps (BVG 34d)
Biodiversity Status	Of Concern
Dominant vegetation observed	Very sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>) (D), with occasional poplar box (<i>E. populnea</i>). Sparse sub-canopy of Queensland blue gum regrowth along the high-water mark. Shrub layer absent. Ground layer dominated by southern cut grass (<i>Leersia hexandra</i>) and spike rush (<i>Eleocharis plana</i>), with occasional Budda pea (<i>Aeschynomene indica</i>) and giant flat sedge (<i>Cyperus exaltatus</i>).
General Site Observations	Trees form the ecologically dominant stratum; ephemeral wetland currently dry with good ground cover growth from recent rains; an isolated remnant with no linkages to other vegetation; good recruitment; no erosion; no dieback detected; fire scars not evident.
Health	Good

Survey Code	
6	
Location	
Deverill	
Date	
6/03/2018	
Latitude	
-22.0978	
Longitude	
148.3633	
Slope:	
<1°	
Aspect:	
W	
General Site Description	
Landform	Plain
Lithology	Alluvial sandstone sediments
Soil	Sandy light clay
Height of EDS	6 m
Crown cover	40%
Mapped RE	11.3.2 / 11.3.1 (95 / 5)
Observed RE	Non-remnant – 11.3.2 Regrowth
Biodiversity Status	-
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with occasional carbeen (<i>Corymbia tessellaris</i>). Very sparse shrub layer of bean tree (<i>Cassia brewsteri</i>). Ground layer dominated by native species including forest bluegrass (<i>Bothriochloa bladhii</i>), <i>Glycine</i> sp. and velvet hibiscus (<i>Melhania oblongifolia</i>).
General Site Observations	Regrowth trees form the ecologically dominant stratum; aerial imagery suggests this area to have been cleared at some time after 2003.
Health	Good

Survey Code	
7	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.1892	
Longitude	
148.3908	
Slope:	
<1°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Alluvial sediments
Soil	Loam
Height of EDS	16 m
Crown cover	45%
Mapped RE	Non-remnant
Observed RE	11.3.2 <i>Eucalyptus populnea</i> woodland on alluvial plains BVG 17a
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse to mid-dense canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with frequent Sally wattle (<i>Acacia salicina</i>), and occasional Carbeen (<i>Corymbia tessellaris</i>) and Clarkson's bloodwood (<i>C. clarksoniana</i>). Very sparse sub-canopy of poplar box, white bauhinia (<i>Lysiphyllum hookeri</i>), bean tree (<i>Cassia brewsteri</i>), whitewood (<i>Atalaya hemiglauc</i>) and Sally wattle. Sparse shrub layer of Sally wattle, white wood, bean tree and lantana (<i>Lantana camara</i>). Ground layer a mix of green panic (<i>Megathyrsus maximus</i>), buffel grass (<i>Cenchrus ciliaris</i>), red Natal grass (<i>Melinis repens</i>), windmill grass (<i>Enteropogon ramosus</i>), wandering jew (<i>Commelina ensifolia</i>), stinking passionfruit (<i>Passiflora foetida</i>), purple spadeflower (<i>Afrohybanthus enneaspermus</i>) and pink tongues (<i>Rostellularia adscendens</i>).
General Site Observations	Trees form the ecologically dominant stratum; a mature community with low disturbance levels; cleared fence-line corridor separating this strip of unmapped vegetation from the riparian corridor; older hollow trees present; part of the riparian corridor associated with the Isaac River; approximately 400 m wide at this point; good recruitment; low erosion; fire scars not evident.
Health	Good

Survey Code	8	
Location	Deverill	
Date	7/03/2018	
Latitude	-22.1947	
Longitude	148.4033	
Slope:	<1°	
Aspect:	SE	
General Site Description		
Landform	Plain	
Lithology	Alluvial sediments	
Soil	Loam	
Height of EDS	18 m	
Crown cover	30%	
Mapped RE	Non-remnant	
Observed RE	11.3.2 <i>Eucalyptus populnea</i> woodland on alluvial plains (BVG 17a)	
Biodiversity Status	Of Concern	
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with frequent Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and Dallachy gum (<i>C. dallachiana</i>), and occasional carbeen (<i>C. tessellaris</i>). Sparse sub-canopy of poplar box, Clarkson's bloodwood and Sally wattle (<i>Acacia salicina</i>). Very sparse shrub layer of Sally wattle, bean tree (<i>Cassia brewsteri</i>) and lantana (<i>Lantana camara</i>). Ground layer a mix of green panic (<i>Megathyrsus maximus</i>), buffel grass (<i>Cenchrus ciliaris</i>), red Natal grass (<i>Melinis repens</i>), shrubby stylo (<i>Stylosanthes scabra</i>), Paddy's lucerne (<i>Sida rhombifolia</i>), flannel weed (<i>Sida cordifolia</i>), wandering jew (<i>Commelina diffusa</i>) and pink tongues (<i>Rostellularia adscendens</i>).	
General Site Observations	Trees form the ecologically dominant stratum; a mature community with some disturbance, possibly from old fires; cleared fence-line corridor separating this strip of unmapped vegetation from the riparian corridor; older hollow trees present; part of the riparian corridor associated with the Isaac River, approx. 700 m wide at this point; good recruitment; low erosion; fire scars not evident.	
Health	Good	

Survey Code	
9	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.2014	
Longitude	
148.4142	
Slope:	
<1°	
Aspect:	
SW	
General Site Description	
Landform	Watercourse - Creek
Lithology	Alluvial sediments
Soil	Sand
Height of EDS	19 m
Crown cover	30%
Mapped RE	11.3.25
Observed RE	11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines (BVG 16a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with occasional carbeen (<i>Corymbia tessellaris</i>), poplar box (<i>E. populnea</i>) and Dallachy gum (<i>C. dallachiana</i>). Sparse sub-canopy of Sally wattle (<i>Acacia salicina</i>), poplar box, bean tree (<i>Cassia brewsteri</i>) and white bauhinia (<i>Lysiphyllum hookeri</i>). Sparse shrub layer of belly ache bush (<i>Jatropha gossypifolia</i>), white bauhinia, bean tree, Sally wattle and Jack bean (<i>Canavalia papuana</i>). Ground layer a mix of green panic (<i>Megathyrsus maximus</i>), buffel grass (<i>Cenchrus ciliaris</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), flax lily (<i>Dianella nervosa</i>) and slender flat-sedge (<i>Cyperus gracilis</i>).
General Site Observations	Trees form the ecologically dominant stratum; a mature community with some hollows; junction of a minor creek and Isaac River; good recruitment; normal watercourse erosion but a deep channel at this point, no dieback detected; fire scars not evident.
Health	Good

Survey Code	
10	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.1955	
Longitude	
148.4145	
Slope:	
<1°	
Aspect:	
S	
General Site Description	
Landform	Watercourse - Creek
Lithology	Alluvial sediments
Soil	Sand to light clays
Height of EDS	16 m
Crown cover	20%
Mapped RE	Non-remnant
Observed RE	11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines (BVG 16a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Very sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with frequent poplar box (<i>E. populnea</i>) and occasional narrow-leaved ironbark (<i>E. crebra</i>). Sparse sub-canopy of Sally wattle (<i>Acacia salicina</i>), poplar box, bean tree (<i>Cassia brewsteri</i>), whitewood (<i>Atalaya hemiglauca</i>) and white bauhinia (<i>Lysiphyllum hookeri</i>). Sparse shrub layer of Sally wattle, whitewood, Queensland blue gum, poplar box, small-leaved ebony (<i>Diospyros humilis</i>) and nipan (<i>Capparis lasiantha</i>). Ground layer a mix of green panic (<i>Megathyrsus maximus</i>) and buffel grass (<i>Cenchrus ciliaris</i>), with occasional mauve clustervine (<i>Jacquemontii paniculata</i>).
General Site Observations	Trees form the ecologically dominant stratum; a regrowth community that is recovering some elements of a mature community; a large number of dead trees; a minor creek flowing into the Isaac River; good recruitment; normal watercourse erosion; fire scars not evident.
Health	Average

Survey Code	
11	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.1881	
Longitude	
148.4162	
Slope:	
<1°	
Aspect:	
S	
General Site Description	
Landform	Closed depression – swamp
Lithology	Alluvial sandstone sediments
Soil	Light clay – deep cracking
Height of EDS	16 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.3.27f <i>Eucalyptus coolabah</i> and / or <i>E. tereticornis</i> open woodland to woodland fringing swamps (BVG 34d)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by coolabah (<i>Eucalyptus coolabah</i>), with occasional poplar box (<i>E. populnea</i>). Sparse sub-canopy of brigalow (<i>Acacia harpophylla</i>) and yellowwood (<i>Terminalia oblongata</i>). Shrub layer mostly absent. Ground layer dominated by giant flat sedge (<i>Cyperus exaltatus</i>), with occasional musk basil (<i>Basilicum polystachion</i>).
General Site Observations	Trees form the ecologically dominant stratum; mature ephemeral wetland currently wet with good ground cover growth from recent rains; linkages to other vegetation via an intact minor watercourse through to the Isaac River corridor; good recruitment; no erosion; no dieback detected; fire scars not evident.
Health	Good

Survey Code	
12	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.1836	
Longitude	
148.4169	
Slope:	
1-2°	
Aspect:	
SW	
General Site Description	
Landform	Hillcrest
Lithology	Eroded sandstone pediment and derived soils
Soil	Clay loam – with sandstone cobble
Height of EDS	16 m
Crown cover	25%
Mapped RE	Non-remnant
Observed RE	11.9.1 <i>Acacia harpophylla</i> - <i>Eucalyptus cambageana</i> woodland to open forest on fine-grained sedimentary rocks (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy of Dawson gum (<i>Eucalyptus cambageana</i>), with a very sparse sub-canopy of Dawson gum and brigalow (<i>Acacia harpophylla</i>). Mid-dense shrub layer of semi-evergreen vine thicket species over at least half of the patch, including purple pea bush (<i>Hovea longipes</i>), acalypha (<i>Acalypha eremorum</i>), sandalwood (<i>Santalum lanceolatum</i>), cocaine bush (<i>Erythroxylum australe</i>), scrub boonaree (<i>Alectryon diversifolius</i>), shiny-leaved canthium (<i>Psydrax odorata forma buxifolia</i>) and shain fruit (<i>Alyxia ruscifolia</i>). Ground layer sparse, but contains buffel grass (<i>Cenchrus ciliaris</i>), green panic (<i>Megathyrsus maximus</i>), sabi grass (<i>Urochloa mosambicensis</i>) and brigalow grass (<i>Paspalidium caespitosum</i>).
General Site Observations	Trees form the ecologically dominant stratum; a mature community with some disturbance and edge effect from small patch size and an old graded track through the patch; linked to a minor riparian corridor to the river; moderate recruitment; low erosion; fire scars not evident; older trees with hollows present.
TEC Status	Not a TEC. Brigalow was not detected in the canopy and is only an occasional species (11-25%) in the sub-canopy.
Health	Good

Survey Code	
13	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.1801	
Longitude	
148.4167	
Slope:	
1-2°	
Aspect:	
SW	
General Site Description	
Landform	Hillcrest
Lithology	Eroded sandstone pediment and derived soils
Soil	Sandy loam – with sandstone cobble
Height of EDS	17 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.9.9 <i>Eucalyptus crebra</i> woodland on fine-grained sedimentary rocks (BVG 13c)
Biodiversity Status	No concern at present
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sparse sub-canopy of prickly pine (<i>Bursaria incana</i>) and black wattle (<i>Acacia faucium</i>). Sparse shrub layer of quinine (<i>Petalostigma pubescens</i>), shiny-leaved canthium (<i>Psydrax odorata</i>) and cocaine bush (<i>Erythroxylum australe</i>). Ground layer contains red Natal grass (<i>Melinis repens</i>), sabi grass (<i>Urochloa mosambicensis</i>), corrugated sida (<i>Sida corrugata</i>), oldenlandia (<i>Oldenlandia mitrasacmoides</i> subsp. <i>trachymenoides</i>) and zornia (<i>Zornia dyctiocarpa</i> var. <i>filifolia</i>).
General Site Observations	Trees form the ecologically dominant stratum; a young community with some disturbance and edge effect from narrow patch size; tenuously linked through regrowth and remnant vegetation; good recruitment; low erosion; fire scars not evident; mostly young trees.
Health	Good

Survey Code	
14	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.1793	
Longitude	
148.4154	
Slope:	
2-3°	
Aspect:	
NE	
General Site Description	
Landform	Hillcrest
Lithology	Eroded sandstone pediment and derived soils
Soil	Clay loam – with sandstone cobble
Height of EDS	18 m
Crown cover	40%
Mapped RE	Non-remnant
Observed RE	11.9.1 <i>Acacia harpophylla</i> - <i>Eucalyptus cambageana</i> woodland to open forest on fine-grained sedimentary rocks (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy of yapunya (<i>Eucalyptus thozetiana</i>), with a very sparse sub-canopy of yapunya and brigalow (<i>Acacia harpophylla</i>). Sparse shrub layer of cocaine bush (<i>Erythroxylum australe</i>), <i>Acacia</i> sp., currant bush (<i>Carissa ovata</i>), poison peach (<i>Ehretia membranifolia</i>) and shiny-leaved canthium (<i>Psydrax odorata</i> forma <i>buxifolia</i>). Ground layer contains windmill grass (<i>Enteropogon ramosus</i>), spreading panic grass (<i>Paspalidium distans</i>) and corrugated sida (<i>Sida corrugata</i>).
General Site Observations	Trees form the ecologically dominant stratum; a mature community with some larger trees with likely hollows; tenuous narrow linkage through remnant and regrowth; low erosion; fire scars not evident.
TEC Status	Not TEC – No brigalow in the canopy and very isolated, rare (1-10%) component of the sub-canopy.
Health	Good

Survey Code	15	
Location	Iffley	
Date	7/03/2018	
Latitude	-22.1869	
Longitude	148.4205	
Slope:	1-3°	
Aspect:	NW	
General Site Description		
Landform	Hillcrest	
Lithology	Eroded sandstone pediment and derived soils	
Soil	Clay loam – with sandstone cobble to boulders	
Height of EDS	17 m	
Crown cover	30%	
Mapped RE	Non-remnant	
Observed RE	11.9.1 <i>Acacia harpophylla</i> - <i>Eucalyptus cambageana</i> woodland to open forest on fine-grained sedimentary rocks (BVG 25a)	
Biodiversity Status	Endangered	
Dominant vegetation observed	Sparse canopy of yapunya (<i>Eucalyptus thozetiana</i>), with a very sparse sub-canopy of yapunya, red ash (<i>Alphitonia excelsa</i>) and brigalow (<i>Acacia harpophylla</i>). Sparse shrub layer of cocaine bush (<i>Erythroxylum australe</i>), Cassinia (<i>Elaeodendron australe</i>), Currant bush (<i>Carissa ovata</i>), broad-leaved wilga (<i>Geijera salicifolia</i>) and false sandalwood (<i>Eremophila mitchellii</i>). Ground layer contains windmill grass (<i>Enteropogon unispectus</i>), Spreading panic grass (<i>Paspalidium distans</i>), katoora grass (<i>Sporobolus actinocladius</i>) and fairy grass (<i>Sporobolus caroli</i>).	
General Site Observations	Trees form the ecologically dominant stratum; a mature community with some larger trees with likely hollows; tenuous narrow linkage through remnant and regrowth; low erosion; fire scars not evident.	
TEC Status	Not TEC – No brigalow in the canopy and only occasional (11-25%) component of the sub-canopy.	
Health	Good	

Survey Code	
16	
Location	
Iffley	
Date	
7/03/2018	
Latitude	
-22.1869	
Longitude	
148.4205	
Slope:	
1°	
Aspect:	
E	
General Site Description	
Landform	Plain
Lithology	Sediments – recent alluvium
Soil	Sandy light clay
Height of EDS	2 m
Crown cover	10%
Mapped RE	11.3.2 / 11.3.7 / 11.3.1 (70 / 25 / 5)
Observed RE	Non-remnant
Biodiversity Status	-
Dominant vegetation observed	Sparse shrub layer to low tree layer of wilga (<i>Geijera parviflora</i>), bean tree (<i>Cassia brewsteri</i>) and canthium (<i>Psyrdrax</i> sp.). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), with scattered native species.
General Site Observations	Shrubs form the ecologically dominant stratum; a cleared community with standing dead trees, some likely to contain small to medium hollows; scattered regrowth; low erosion; fire scars not evident.
Health	Poor

Survey Code	
17	
Location	
Iffley	
Date	
7/03/2018	
Latitude	
-22.2105	
Longitude	
148.4194	
Slope:	
<1°	
Aspect:	
E	
General Site Description	
Landform	Plain
Lithology	Alluvial sediments
Soil	Loam
Height of EDS	15 m
Crown cover	40%
Mapped RE	11.3.2 / 11.3.7 / 11.3.1 (70 / 25 / 5)
Observed RE	11.3.2 <i>Eucalyptus populnea</i> woodland on alluvial plains (BVG 17a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy of poplar box (<i>Eucalyptus populnea</i>), with a very sparse sub-canopy of poplar box, Sally wattle (<i>Acacia salicina</i>) and bean tree (<i>Cassia brewsteri</i>). Very sparse shrub layer of Sally wattle, bean tree and whitewood (<i>Atalaya hemiglauc</i>). Ground layer a mix of buffel grass (<i>Cenchrus ciliaris</i>), wiregrass (<i>Aristida calycina</i>), velvet hibiscus (<i>Melhania oblongifolia</i>), red Natal grass (<i>Melinis repens</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; mostly mature trees with some older trees with hollows scattered; an intact patch approximately 1000 m x 500 m and connected to the Isaac River corridor; moderate recruitment; low erosion; no dieback detected; fire scars not evident.
Health	Good

Survey Code	
18	
Location	
Iffley	
Date	
7/03/2018	
Latitude	
-22.2129	
Longitude	
148.4258	
Slope:	
<1°	
Aspect:	
SE	
General Site Description	
Landform	Closed depression – swamp
Lithology	Alluvial cracking clays
Soil	Light clay
Height of EDS	15 m
Crown cover	15%
Mapped RE	Non-remnant
Observed RE	11.3.27f <i>Eucalyptus coolabah</i> and / or <i>E. tereticornis</i> open woodland to woodland fringing swamps (BVG 34d)
Biodiversity Status	Of Concern
Dominant vegetation observed	Very sparse canopy of coolabah (<i>Eucalyptus coolabah</i>), with a sparse sub-canopy of coolabah regrowth and brigalow (<i>Acacia harpophylla</i>) suckers along the fringes of the swamp. Shrub layer absent. Ground layer dominated by spike rush (<i>Eleocharis plana</i>), with occasional umbrella cane grass (<i>Leptochloa digitata</i>) and clustered lovegrass (<i>Eragrostis elongata</i>).
General Site Observations	Trees form the ecologically dominant stratum; an ephemeral wetland currently near dry with good ground cover growth from recent rains; an isolated remnant that has been cleared around; moderate recruitment; no erosion; deep cracking clays in part with gilgai evident; no dieback detected; fire scars not evident.
Health	Average

Survey Code	
19	
Location	
Iffley	
Date	
7/03/2018	
Latitude	
-22.2105	
Longitude	
148.4294	
Slope:	
<1°	
Aspect:	
S	
General Site Description	
Landform	Closed depression – swamp
Lithology	Alluvial fine sediments
Soil	Clay loam
Height of EDS	18 m
Crown cover	20%
Mapped RE	Non-remnant
Observed RE	11.3.27f <i>Eucalyptus coolabah</i> and / or <i>E. tereticornis</i> open woodland to woodland fringing swamps (BVG 34d)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with occasional poplar box (<i>E. populnea</i>) and Dallachy's gum (<i>Corymbia dallachyana</i>). Sparse sub-canopy of Queensland blue gum along the fringes of the swamp. Shrub layer sparse and dominated by the weed <i>Parkinsonia aculeata</i> . Ground layer was mostly inundated at the time of assessment, but fringed by southern cut grass (<i>Leersia hexandra</i>), spike rush (<i>Eleocharis plana</i>) and common rush (<i>Juncus usitatus</i>).
General Site Observations	Trees form the ecologically dominant stratum; ephemeral wetland currently wet from recent rains; an isolated remnant that has been cleared around; moderate recruitment; no erosion; no dieback detected; fire scars absent; waterbirds present.
Health	Good

Survey Code	
20	
Location	
Iffley	
Date	
7/03/2018	
Latitude	
-22.2071	
Longitude	
148.4292	
Slope:	
1-3°	
Aspect:	
NW	
General Site Description	
Landform	Hillcrest
Lithology	Eroded sandstone pediment and derived soils
Soil	Clay loam – with sandstone cobble to boulders
Height of EDS	15 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.9.1 <i>Acacia harpophylla</i> - <i>Eucalyptus cambageana</i> woodland to open forest on fine-grained sedimentary rocks (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Very sparse canopy of yapunya (<i>Eucalyptus thozetiana</i>), with no obvious sub-canopy. Sparse shrub layer of cocaine bush (<i>Erythroxylum australe</i>), currant bush (<i>Carissa ovata</i>), native pomegranate (<i>Capparis arborea</i>), sandalwood (<i>Santalum lanceolatum</i>), snake vine (<i>Tinospora smilacina</i>) and shiny-leaved canthium (<i>Psydrax odorata</i>). Ground layer mostly red Natal grass (<i>Melinis repens</i>) and <i>Bonamia media</i> .
General Site Observations	Trees form the ecologically dominant stratum; a young community in a relatively small patch; isolated patch; low erosion; fire scars not evident.
TEC Status	Not TEC – No brigalow in the patch.
Health	Good

Survey Code	21
Location	Iffley
Date	7/03/2018
Latitude	-22.2006
Longitude	148.4327
Slope:	<1°
Aspect:	S
General Site Description	
Landform	Plain
Lithology	Fine sediments (Cainozoic era mudstone and siltstone)
Soil	Light clay
Height of EDS	16 m
Crown cover	25%
Mapped RE	Non remnant
Observed RE	11.4.8 <i>Eucalyptus cambageana</i> woodland to open forest with <i>Acacia harpophylla</i> or <i>A. argyrodendron</i> on Cainozoic clay plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy of Dawson gum (<i>Eucalyptus cambageana</i>), with a very sparse sub-canopy of Dawson gum, poplar box (<i>E. populnea</i>) and brigalow (<i>Acacia harpophylla</i>). Sparse shrub layer of brigalow, currant bush (<i>Carissa ovata</i>), scrub boonaree (<i>Alectryon diversifolius</i>) and whitewood (<i>Atalaya hemiglauca</i>). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), with occasional wiregrass (<i>Aristida calycina</i>), red Natal grass (<i>Melinis repens</i>) and sabi grass (<i>Urochloa mosambicensis</i>).
General Site Observations	Trees form the ecologically dominant stratum; a young (advanced regrowth) community in a sizeable patch (300 m x 400 m) that is approaching remnant status; isolated within the landscape; mostly non-native groundcover; good recruitment; erosion absent; no dieback detected; fire scars not evident; used as a cattle camp.
TEC status	<u>Not</u> a TEC due to the absence of <i>Acacia harpophylla</i> in the canopy and sub-canopy
Health	Average



Survey Code	
22	
Location	
Iffley	
Date	
7/03/2018	
Latitude	
-22.1921	
Longitude	
148.4230	
Slope:	
2-3°	
Aspect:	
WSW	
General Site Description	
Landform	Hillcrest
Lithology	Eroded sandstone pediment and derived soils
Soil	Sandy loam – with sandstone cobble and boulders
Height of EDS	12 m
Crown cover	25%
Mapped RE	Non-remnant
Observed RE	11.9.9 <i>Eucalyptus crebra</i> woodland on fine-grained sedimentary rocks (BVG 13c)
Biodiversity Status	No concern at present
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with frequent Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sparse sub-canopy of narrow-leaved ironbark and Clarkson's bloodwood. Sparse shrub layer of quinine (<i>Petalostigma pubescens</i>), cocaine bush (<i>Erythroxylum australe</i>), black wattle (<i>Acacia faucium</i>) and currant bush (<i>Carissa ovata</i>). Ground layer contains red Natal grass (<i>Melinis repens</i>), sleepy morning (<i>Waltheria indica</i>) and black spear grass (<i>Heteropogon contortus</i>).
General Site Observations	Trees form the ecologically dominant stratum; a young community with likely disturbance from old fires; isolated patch along an old eroded ridge; good recruitment; low erosion; fire scars absent; mostly young trees; a fringe of RE 11.9.1 runs along the eastern edge of the patch.
Health	Average

Survey Code	
23	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.1618	
Longitude	
148.4067	
Slope:	
2-3°	
Aspect:	
E	
General Site Description	
Landform	Hillcrest
Lithology	Eroded sandstone pediment and derived soils
Soil	Clay loam – with sandstone cobble
Height of EDS	14 m
Crown cover	45%
Mapped RE	Non-remnant
Observed RE	11.9.1 <i>Acacia harpophylla</i> - <i>Eucalyptus cambageana</i> woodland to open forest on fine-grained sedimentary rocks (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy dominated by yapunya (<i>Eucalyptus thozetiana</i>), with a sparse sub-canopy of yapunya and brigalow (<i>Acacia harpophylla</i>). Sparse shrub layer of cocaine bush (<i>Erythroxylum australe</i>), emu apple (<i>Owenia acidula</i>), Ellangowan poison bush (<i>Eremophila deserti</i>), currant bush (<i>Carissa ovata</i>), wilga (<i>Geijera parviflora</i>), shiny-leaved canthium (<i>Psydrax odorata</i>) and Harrisia cactus (<i>Harrisia martini</i>). Ground layer contains <i>Paspalidium</i> sp. and windmill grass (<i>Eragrostis acicularis</i>).
General Site Observations	Trees form the ecologically dominant stratum; a young community, possibly advanced regrowth from old fires; isolated patch with wattle regrowth to the west and north; low erosion; fire scars absent.
TEC Status	Not TEC – No brigalow in the canopy and only occasional in the sub-canopy.
Health	Good

Survey Code	
24	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.1504	
Longitude	
148.4007	
Slope:	
1-2°	
Aspect:	
SW	
General Site Description	
Landform	Plain
Lithology	Cainozoic; sandstone sediments
Soil	Light clay
Height of EDS	10 m
Crown cover	40%
Mapped RE	11.3.1 / 11.3.25 (60 / 40)
Observed RE	11.3.1 <i>Acacia harpophylla</i> and / or <i>Casuarina cristata</i> open forest on alluvial plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse low canopy of brigalow (<i>Acacia harpophylla</i>), with a very sparse sub-canopy of brigalow. Very sparse shrub layer of currant bush (<i>Carissa ovata</i>), false sandalwood (<i>Eremophila mitchellii</i>) and scrub leopard ash (<i>Flindersia dissosperma</i>). Ground layer contains buffel grass (<i>Cenchrus ciliaris</i>), sabi grass (<i>Urochloa mosambicensis</i>), slender rat's tail grass (<i>Sporobolus creber</i>), forest blue-grass (<i>Bothriochloa bladhii</i>), windmill grass (<i>Enteropogon acicularis</i>), parthenium (<i>Parthenium hysterophorus</i>), brigalow grass (<i>Paspalidium caespitosum</i>), fairy grass (<i>Sporobolus caroli</i>) and Katoora grass (<i>Sporobolus actinocladius</i>).
General Site Observations	Trees form the ecologically dominant stratum; a patchy community with grassy open areas; located on a drainage line (gully) with some alluvial elements but more likely to be incised Cainozoic era clays; moderate recruitment and good health; no dieback detected; fire scars absent; large amount of recent wind storm damage evident; exotic species in the ground layer are approaching 50%.
TEC status	TEC likely. High levels of exotic species in groundcover but currently more than 50% native species.
Health	Average

Survey Code	
25	
Location	
Deverill	
Date	
7/03/2018	
Latitude	
-22.1520	
Longitude	
148.4026	
Slope:	
1-2°	
Aspect:	
SW	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sand
Height of EDS	13 m
Crown cover	15%
Mapped RE	Non-remnant
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Very sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>) and Clarkson's bloodwood (<i>Corymbia clarksoniana</i>), with occasional Dallachy's gum (<i>C. dallachiana</i>). Sparse sub-canopy of Clarkson's bloodwood, narrow-leaved ironbark, sweet canthium (<i>Psydrax oleifolius</i>) and Bean tree (<i>Cassia brewsteri</i>). Very sparse shrub layer of Dallachy's gum, quinine (<i>Petalostigma pubescens</i>), cocaine (<i>Erythroxylum australe</i>) and red ash (<i>Alphitonia excelsa</i>). Ground layer includes red Natal grass (<i>Melinis repens</i>), spiny sida (<i>Sida spinescens</i>), shrubby stylo (<i>Stylosanthes scabra</i>), wiregrasses (<i>Aristida jerichoensis</i> and <i>A. calycina</i>), golden beard grass (<i>Chrysopogon fallax</i>) and black spear grass (<i>Heteropogon contortus</i>).
General Site Observations	Trees form the ecologically dominant stratum; naturally open woodland on very sandy soils; moderate recruitment; no fire scars evident; some natural dieback; native and introduced grasses.
Health	Good

Survey Code	
26	
Location	
Deverill	
Date	
8/03/2018	
Latitude	
-22.13895	
Longitude	
148.42463	
Slope:	
3-5°	
Aspect:	
N	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy light clay
Height of EDS	16 m
Crown cover	25%
Mapped RE	11.5.9b
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with abundant Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and occasional poplar box (<i>Eucalyptus populnea</i>). Very sparse sub-canopy of Clarkson's bloodwood, narrow-leaved ironbark and black wattle (<i>Acacia faucium</i>). Mid-dense shrub layer dominated by quinine (<i>Petalostigma pubescens</i>), with frequent cocaine bush (<i>Erythroxylum australe</i>) and occasional lantana (<i>Lantana camara</i>). Ground cover dominated by buffel grass (<i>Cenchrus ciliaris</i>), with occasional red Natal grass (<i>Melinis repens</i>), shrubby stylo (<i>Stylosanthes scabra</i>), erect kerosene grass (<i>Aristida holathera</i>), golden beard grass (<i>Chrysopogon fallax</i>) and black spear grass (<i>Heteropogon contortus</i>).
General Site Observations	Trees form the ecologically dominant stratum; sandy soils with deep gully erosion close to this site; dense shrub layer which is shading ground cover species; good recruitment; no fire scars evident; introduced grasses dominate.
Health	Average

Survey Code 27	
Location Iffley	
Date 8/03/2018	
Latitude -22.13701	
Longitude 148.42723	
Slope: 0-1°	
Aspect: N	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Light clay – low gilgai
Height of EDS	-
Crown cover	-
Mapped RE	11.5.9b
Observed RE	Cleared – this area is likely to have been a brigalow community.
Biodiversity Status	NA
Dominant vegetation observed	Improved pasture dominated by Indian couch (<i>Bothriochloa pertusa</i>) and Buffel grass (<i>Cenchrus ciliaris</i>).
General Site Observations	Carrying a good body of feed.
Health	NA

Survey Code	
28	
Location	
Iffley Station	
Date	
8/03/2018	
Latitude	
-22.11834	
Longitude	
148.44620	
Slope:	
1-2°	
Aspect:	
SW	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy loam
Height of EDS	14 m
Crown cover	45%
Mapped RE	Non-remnant
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse to mid-dense canopy of poplar box (<i>E. populnea</i>), with a very sparse sub-canopy of scrub leopardwood (<i>Flindersia dissosperma</i>), poplar box, vine tree (<i>Ventilago viminalis</i>) and false sandalwood (<i>Eremophila mitchellii</i>). Sparse shrub layer of false sandalwood, scrub leopardwood, currant bush (<i>Carissa ovata</i>), spiny fan flower (<i>Scaevola spinescens</i>), boonaree (<i>Alectryon oleifolius</i>) and poison peach (<i>Ehretia membranifolia</i>). Ground layer contains bluegrass (<i>Dichanthium fecundum</i>), buffel grass (<i>Cenchrus ciliaris</i>), forest bluegrass (<i>Bothriochloa bladhii</i>) and silky browntop (<i>Eulalia aurea</i>).
General Site Observations	Trees form the ecologically dominant stratum; a mature community with the occasional older hollow-bearing tree; part of an isolated patch approximately 900 m by 240 m; good recruitment; no erosion; no dieback detected; no fire scarring evident.
Health	Good

Survey Code	
29	
Location	
Iffley Station	
Date	
8/03/2018	
Latitude	
-22.11573	
Longitude	
148.47344	
Slope:	
1-2°	
Aspect:	
ESE	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy loam
Height of EDS	15 m
Crown cover	40%
Mapped RE	11.5.3 / 11.3.25 (90 / 10)
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with occasional narrow-leaved ironbark (<i>E. crebra</i>). Very sparse sub-canopy of poplar box, narrow-leaved ironbark, bean tree (<i>Cassia brewsteri</i>), emu apple (<i>Owenia acidula</i>) and beefwood (<i>Grevillea striata</i>) Sparse shrub layer of yellow berry bush (<i>Denhamia cunninghamiana</i>), beefwood and currant bush (<i>Carissa ovata</i>). Ground layer contains dark wiregrass (<i>Aristida calycina</i>), buffel grass (<i>Cenchrus ciliaris</i>) and forest bluegrass (<i>Bothriochloa bladhii</i>).
General Site Observations	Trees form the ecologically dominant stratum; a slightly patchy community with fragmentation from tracks and some surface and gully erosion; part of a narrow corridor associated with a drainage line; good recruitment; no dieback detected; no fire scarring.
Health	Good

Survey Code	
30	
Location	
Iffley	
Date	
8/03/2018	
Latitude	
-22.12542	
Longitude	
148.48940	
Slope:	
3-5°	
Aspect:	
N	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy light clay
Height of EDS	18 m
Crown cover	20%
Mapped RE	11.5.3 / 11.3.25 (90 / 10)
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with frequent Dallachy's gum (<i>Corymbia dallachiana</i>) and occasional Clarkson's bloodwood (<i>C. clarksoniana</i>) and poplar box (<i>E. populnea</i>). Sparse sub-canopy of narrow-leaved ironbark, red ash (<i>Alphitonia excelsa</i>), black wattle (<i>Acacia faucium</i>) and quinine (<i>Petalostigma pubescens</i>). Very sparse shrub layer of tea tree (<i>Melaleuca nervosa</i>), red ash, quinine and currant bush (<i>Carissa ovata</i>). Ground cover is a mix of buffel grass (<i>Cenchrus ciliaris</i>), Indian couch (<i>Bothriochloa pertusa</i>), shrubby stylo (<i>Stylosanthes scabra</i>), golden beard grass (<i>Chrysopogon fallax</i>), forest lovegrass (<i>Eragrostis sororia</i>), cotton panic (<i>Digitaria brownii</i>), erect kerosene grass (<i>Aristida holathera</i>), dark wiregrass (<i>Aristida calycina</i>) and black spear grass (<i>Heteropogon contortus</i>).
General Site Observations	Trees form the ecologically dominant stratum; this landform has sandy soils with some gully erosion close to the watercourse; this patch and the adjacent polygon to the south (mapped as RE 11.3.35) have been incorrectly mapped; good recruitment; no fire scars evident.
Health	Average

Survey Code	
31	
Location	
Iffley	
Date	
8/03/2018	
Latitude	
-22.13119	
Longitude	
148.48914	
Slope:	
0°	
Aspect:	
-	
General Site Description	
Landform	Closed depression
Lithology	Weathered sediments
Soil	Clay loam with weathered ironstone nodules
Height of EDS	17 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains and remnant surfaces (BVG 34b)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy dominated by poplar gum (<i>Eucalyptus platyphylla</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>), Carbeen (<i>C. tessellaris</i>), Dallachy's gum (<i>C. dallachiana</i>) and Queensland blue gum (<i>E. tereticornis</i>). Very sparse sub-canopy of Queensland blue gum and poplar gum. No shrub layer. Ground layer dominated by spike rush (<i>Eleocharis philippinensis</i>), with occasional sneezeweed (<i>Centipeda minima</i>), entire marshwort (<i>Nymphoides geminata</i>), creeping spurge (<i>Phyllanthus virgatus</i>) and Budda pea (<i>Aeschynomene indica</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy community which has suffered a recent destructive wind event with many trees damaged; surrounded by patchy acacia and eucalypt regrowth of RE 11.9.5; extensive pig diggings; good recruitment; no fire scarring evident.
Health	Good

Survey Code	
32	
Location	
Iffley	
Date	
8/03/2018	
Latitude	
-22.13121	
Longitude	
148.49864	
Slope:	
1-2°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands, clays and gravels
Soil	Weathered sands with ironstone nodules
Height of EDS	Median height 11 m
Crown cover	35%
Formation	
Mapped RE	11.3.35
Observed RE	11.5.8c <i>Eucalyptus platyphylla</i> woodland on white-yellow weathered sands, with grassy ground layer (BVG 18a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse woodland dominated by poplar gum (<i>Eucalyptus platyphylla</i>), with occasional beefwood (<i>Grevillea striata</i>). Sparse sub-canopy of poplar gum, silver oak (<i>Grevillea parallela</i>), bull oak (<i>Allocasuarina luehmannii</i>) and bean tree (<i>Cassia brewsteri</i>). Very sparse shrub layer of currant bush (<i>Carissa ovata</i>), dysentery bush (<i>Grewia retusifolia</i>) and red ash (<i>Alphitonia excelsa</i>). Ground layer a mix of black spear grass (<i>Heteropogon contortus</i>), wiregrass (<i>Aristida calycina</i>), shrubby stylo (<i>Stylosanthes scabra</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), barbed wire grass (<i>Cymbopogon refractus</i>), pink tongues (<i>Rostellularia adscendens</i>) mauve clustervine (<i>Jacquemontia paniculata</i>) and golden beard grass (<i>Chrysopogon fallax</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy community with good recruitment; no erosion noted; no fire scars; the patch is small (roughly 300 m x 200 m) having been cleared around, but loosely joined to another patch to the east by regrowth vegetation and an intact riparian corridor running to the south east; low grazing pressure; incorrectly mapped as RE 11.3.35 and is characteristically land zone 5.
Health	Good

Survey Code	
33	
Location	
Iffley	
Date	
8/03/2018	
Latitude	
-22.12722	
Longitude	
148.50168	
Slope:	
1-2°	
Aspect:	
E	
General Site Description	
Landform	Watercourse - Creek
Lithology	Alluvial sediments
Soil	Sand
Height of EDS	18 m
Crown cover	30%
Mapped RE	11.3.25
Observed RE	11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines (BVG 16a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>), carbeen (<i>C. tessellaris</i>) and poplar box (<i>Eucalyptus populnea</i>). Sparse sub-canopy of quinine (<i>Petalostigma pubescens</i>), red ash (<i>Alphitonia excelsa</i>), bean tree (<i>Cassia brewsteri</i>) and black wattle (<i>Acacia faucium</i>). Very sparse shrub layer of red ash and quinine. Ground layer contains kangaroo grass (<i>Themeda triandra</i>), southern cut grass (<i>Leersia hexandra</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), wiregrass (<i>Aristida calycina</i>), clustered lovegrass (<i>Eragrostis elongata</i>) and handsome lovegrass (<i>Eragrostis speciosa</i>).
General Site Observations	Trees form the ecologically dominant stratum; a narrow strip of healthy riparian vegetation which is cleared on both sides; part of an intact corridor of watercourse vegetation (Scrubby Creek) approximately 14 km long but little more than 150 m wide for most of the corridor; normal watercourse erosion, no dieback detected; no fire scars evident.
Health	Good

Survey Code	
34	
Location	
Iffley	
Date	
8/03/2018	
Latitude	
-22.14033	
Longitude	
148.51527	
Slope:	
1-2°	
Aspect:	
SE	
General Site Description	
Landform	Deposited low rises – old floodplain
Lithology	Alluvial sands (origin undetermined)
Soil	Sandy loam
Height of EDS	Median height 19 m
Crown cover	30%
Formation	
Mapped RE	11.3.25
Observed RE	11.3.7 <i>Corymbia</i> spp. woodland on alluvial plains (BVG 9e)
Biodiversity Status	Of Concern
Dominant vegetation observed	Grassy open woodland of Clarkson's bloodwood (<i>Corymbia clarksoniana</i>), carbeen (<i>C. tessellaris</i>), Dallachy's gum (<i>C. dallachiana</i>) and Poplar box (<i>Eucalyptus populnea</i>). Sparse sub-canopy of black wattle (<i>Acacia faucium</i>), quinine (<i>Petalostigma pubescens</i>), Clarkson's bloodwood and carbeen. Sparse shrub layer including currant bush (<i>Carissa ovata</i>), cocaine bush (<i>Erythroxylum australe</i>), bean tree (<i>Cassia brewsteri</i>), dysentery bushes (<i>Grewia retusifolia</i> and <i>G. latifolia</i>) and quinine. Groundcover contains buffel grass (<i>Cenchrus ciliaris</i>), golden beard grass (<i>Chrysopogon fallax</i>), wiregrass (<i>Aristida calycina</i>), liquorice weed (<i>Scoparia dulcis</i>), vernonia (<i>Cyanthillium cinereum</i>), flannel weed (<i>Sida hackettiana</i>), Indian couch (<i>Bothriochloa pertusa</i>), purple lovegrass (<i>Eragrostis lacunaria</i>) and cotton panic (<i>Digitaria brownii</i>).
General Site Observations	Trees form ecologically dominant stratum; a patchy young community with few old trees; part of an intact corridor (Scrubby Creek) of watercourse vegetation approximately 14 km long but little more than 150 m wide for most of the corridor; deposited alluvium between two channels of the watercourse at this point; good recruitment; light sandy loam soils; erosion absent; dieback evident; fire scars absent.
Health	Average

Survey Code	
35	
Location	
Iffley	
Date	
8/03/2018	
Latitude	
-22.14453	
Longitude	
148.51266	
Slope:	
1°	
Aspect:	
NE	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands, clays and gravels
Soil	Weathered sands with ironstone nodules
Height of EDS	Median height 11 m
Crown cover	30%
Mapped RE	11.5.3
Observed RE	11.5.8c <i>Eucalyptus platyphylla</i> woodland on white-yellow weathered sands, with grassy ground layer (BVG 18a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse woodland dominated by poplar gum (<i>Eucalyptus platyphylla</i>), with occasional silver oak (<i>Grevillea parallela</i>), Clarkson's bloodwood (<i>Corymbia clarksoniana</i>), poplar box (<i>E. populnea</i>) and black wattle (<i>Acacia faucium</i>). Very sparse sub-canopy of poplar gum, Clarkson's bloodwood, black wattle and bean tree (<i>Cassia brewsteri</i>). Sparse shrub layer of dead finish (<i>Archidendropsis basaltica</i>), currant bush (<i>Carissa ovata</i>), vine tree (<i>Ventilago viminalis</i>), quinine (<i>Petalostigma pubescens</i>), bean tree, black wattle, Sally wattle (<i>Acacia salicina</i>) and red ash (<i>Alphitonia excelsa</i>). Ground cover a mix of wiregrass (<i>Aristida calycina</i>), shrubby stylo (<i>Stylosanthes scabra</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), buffel grass (<i>Cenchrus ciliaris</i>) and oat grass (<i>Themeda avenacea</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy community with good recruitment; no erosion noted; no fire scars evident; the patch is roughly 1600 m x 750 m, with a narrow linkage to an intact riparian corridor to the south east; low grazing pressure; incorrectly mapped as RE 11.5.3.
Health	Good

Survey Code	
36	
Location	
Iffley Station	
Date	
8/03/2018	
Latitude	
-22.14588	
Longitude	
148.51194	
Slope:	
<1°	
Aspect:	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy loam
Height of EDS	16 m
Crown cover	50%
Mapped RE	11.5.3
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse to mid-dense canopy of poplar box (<i>Eucalyptus populnea</i>), with no discernible sub-canopy. sparse to mid-dense shrub layer of dead finish (<i>Archidendropsis basaltica</i>), currant bush (<i>Carissa ovata</i>), quinine (<i>Petalostigma pubescens</i>), vine tree (<i>Ventilago viminalis</i>), red ash (<i>Alphitonia excelsa</i>), bean tree (<i>Cassia brewsteri</i>) and Sally wattle (<i>Acacia salicina</i>). Ground layer contains dark wiregrass (<i>Aristida calycina</i>), buffel grass (<i>Cenchrus ciliaris</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), oat grass (<i>Themeda avenacea</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; a small patch (approximately 200m diameter) of RE 11.5.3 surrounded by RE 11.5.8c; no dieback detected; no fire scarring evident.
Health	Good

Survey Code	
37	
Location	
Iffley Station	
Date	
9/03/2018	
Latitude	
-22.14306	
Longitude	
148.42828	
Slope:	
20°	
Aspect:	
E	
General Site Description	
Landform	Upper hillslope to escarpment
Lithology	Weathered sandstone sediments
Soil	Skeletal loam
Height of EDS	7 m
Crown cover	50%
Mapped RE	11.7.2 / 11.4.8 / 11.4.9 (85 / 10 / 5)
Observed RE	Non-remnant – regrowth consistent with RE 11.7.2
Biodiversity Status	NA
Dominant vegetation observed	Low mid-dense canopy of <i>Acacia</i> sp. and narrow-leaved ironbark (<i>Eucalyptus crebra</i>). Sparse shrub layer of quinine (<i>Petalostigma pubescens</i>), hop bush (<i>Dodonaea lanceolata</i>), red ash (<i>Alphitonia excelsa</i>), narrow-leaved ironbark and cocaine bush (<i>Erythroxylum australe</i>). Ground layer variable, with species including dark wiregrass (<i>Aristida calycina</i>), <i>Cleistochloa subjuncea</i> , green panic (<i>Megathyrsus maximus</i>), forest lovegrass (<i>Eragrostis sororia</i>), golden beard grass (<i>Chrysopogon fallax</i>), <i>Lomandra confertifolia</i> , red Natal grass (<i>Melinis repens</i>), wanderrie grass (<i>Eriachne mucronata</i>) and Australian basket grass (<i>Oplismenus aemulus</i>).
General Site Observations	Regrowth trees form the ecologically dominant stratum; scarp edge of older sandstone with lateritic weathering; no fire scarring evident.
Health	Average

Survey Code	
38	
Location	
Iffley Station	
Date	
9/03/2018	
Latitude	
-22.14708	
Longitude	
148.42713	
Slope:	
10°	
Aspect:	
E	
General Site Description	
Landform	Upper hillslope to escarpment
Lithology	Weathered sandstone sediments
Soil	Skeletal loam
Height of EDS	7 m
Crown cover	60%
Mapped RE	11.7.2 / 11.4.8 / 11.4.9 (85 / 10 / 5)
Observed RE	Non-remnant – regrowth consistent with RE 11.7.2
Biodiversity Status	NA
Dominant vegetation observed	Low mid-dense canopy dominated by black wattle (<i>Acacia faucium</i>) and red lancewood (<i>A. shirleyi</i>), with occasional narrow-leaved ironbark (<i>Eucalyptus crebra</i>) and Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sparse shrub layer of quinine (<i>Petalostigma pubescens</i>), red ash (<i>Alphitonia excelsa</i>), Clarkson's bloodwood and cocaine bush (<i>Erythroxylum australe</i>). Ground layer contains golden beard grass (<i>Chrysopogon fallax</i>), barbed wire grass (<i>Cymbopogon obtectus</i>), wanderrie grass (<i>Eriachne mucronata</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Regrowth trees form the ecologically dominant stratum; upper slopes and scarp edge of older sandstone with lateritic weathering; no fire scarring evident.
Health	Average

Survey Code	
39	
Location	
Deverill	
Date	
9/03/2018	
Latitude	
-22.14387	
Longitude	
148.42033	
Slope:	
1-2°	
Aspect:	
SE	
General Site Description	
Landform	Crest
Lithology	Cainozoic sands
Soil	Weathered red sands
Height of EDS	7 m
Crown cover	25%
Mapped RE	11.5.9b
Observed RE	Non-remnant – regrowth consistent with RE 11.5.9
Biodiversity Status	NA
Dominant vegetation observed	Low sparse canopy dominated by carrawang (<i>Acacia sparsiflora</i>) and red lancewood (<i>A. shirleyi</i>), with occasional narrow-leaved ironbark (<i>Eucalyptus crebra</i>) and Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sparse shrub layer of quinine (<i>Petalostigma pubescens</i>), red ash (<i>Alphitonia excelsa</i>), Clarkson's bloodwood and cocaine bush (<i>Erythroxylum australe</i>). Ground layer contains golden beard grass (<i>Chrysopogon fallax</i>), barbed wire grass (<i>Cymbopogon oblectus</i>), wanderrie grass (<i>Eriachne mucronata</i>), trigger plant (<i>Stylidium eriorhizum</i>), <i>Rutidosis leucantha</i> , red Natal grass (<i>Melinis repens</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Regrowth trees form the ecologically dominant stratum; upper slopes and scarp edge of older sandstone with lateritic weathering; no fire scarring evident.
Health	Average

Survey Code	
40	
Location	
Deverill	
Date	
9/03/2018	
Latitude	
-22.13894	
Longitude	
148.42060	
Slope:	
5°	
Aspect:	
N	
General Site Description	
Landform	Mid slope - drainage
Lithology	Weathered sediments
Soil	Skeletal loams
Height of EDS	14 m
Crown cover	45%
Mapped RE	11.5.9b
Observed RE	11.7.2 <i>Acacia</i> spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone (BVG 24a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse to mid-dense canopy dominated by red lancewood (<i>A. shirleyi</i>), with occasional narrow-leaved ironbark (<i>Eucalyptus crebra</i>), poplar box (<i>Eucalyptus populnea</i>) and Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sparse sub-canopy of red lancewood and Clarkson's bloodwood. Sparse shrub layer of quinine (<i>Petalostigma pubescens</i>), red ash (<i>Alphitonia excelsa</i>), currant bush (<i>Carissa ovata</i>) and cocaine bush (<i>Erythroxylum australe</i>). Ground layer contains basket grass (<i>Oplismenus aemulus</i>), <i>Digitaria ramularis</i> , green panic (<i>Megathyrsus maximus</i>) and long-leaved mat rush (<i>Lomandra longifolia</i>).
General Site Observations	Trees form the ecologically dominant stratum; mid slopes and scarp edge of older sandstone with lateritic weathering; no fire scarring; a narrow patch in a drainage gully surrounded by sparse RE 11.5.9.
Health	Good

Survey Code	
41	
Location	
Iffley Station	
Date	
9/03/2018	
Latitude	
-22.15438	
Longitude	
148.44764	
Slope:	
1-2°	
Aspect:	
NE	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy clay loam
Height of EDS	17 m
Crown cover	45%
Mapped RE	Non-remnant
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse to mid-dense canopy of poplar box (<i>Eucalyptus populnea</i>), with a very sparse sub-canopy of poplar box, sandalwood (<i>Santalum lanceolatum</i>), scrub leopardwood (<i>Flindersia dissosperma</i>), emu apple (<i>Owenia acidula</i>) and false sandalwood (<i>Eremophila mitchellii</i>). Sparse shrub layer of currant bush (<i>Carissa ovata</i>), wilga (<i>Geijera parviflora</i>), wild orange (<i>Capparis umbonata</i>), poison peach (<i>Ehretia membranifolia</i>), bean tree (<i>Cassia brewsteri</i>), scrub wilga (<i>Geijera salicifolia</i>), large-fruited orange thorn (<i>Pittosporum spinescens</i>), cocaine (<i>Erythroxylum australe</i>) and Sally wattle (<i>Acacia salicina</i>). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>) and contains dark wiregrass (<i>Aristida calycina</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), wiregrass (<i>Aristida jerichoensis</i>), windmill grass (<i>Enteropogon ramosus</i>), golden beard grass (<i>Chrysopogon fallax</i>), mauve clustervine (<i>Jacquemontii paniculata</i>), barbed wire grass (<i>Cymbopogon refractus</i>), red Natal grass (<i>Melinis repens</i>), sabi grass (<i>Urochloa mosambicensis</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; an extension of mapped 11.5.3 surrounded by cleared country; no dieback detected; no fire scarring evident; minor fragmentation by old seismic line or similar; low grazing disturbance.
Health	Good

Survey Code	
42	
Location	
Iffley Station	
Date	
9/03/2018	
Latitude	
-22.15714	
Longitude	
148.45806	
Slope:	
<1°	
Aspect:	
-	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands
Soil	Sandy duplex
Height of EDS	6 m
Crown cover	40%
Mapped RE	Non-remnant
Observed RE	11.5.1 <i>Eucalyptus crebra</i> and / or <i>E. populnea</i> , <i>Callitris glaucophylla</i> , <i>Angophora leiocarpa</i> , <i>Allocasuarina luehmannii</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy of bull oak (<i>Allocasuarina luehmannii</i>), with a very sparse shrub layer of yellow berry bush (<i>Denhamia cunninghamii</i>), red ash (<i>Alphitonia excelsa</i>), wild orange (<i>Capparis umbonata</i>), poison peach (<i>Ehretia membranifolia</i>), bean tree (<i>Cassia brewsteri</i>), ironwood (<i>Acacia excelsa</i>), beefwood (<i>Grevilia striata</i>), cocaine bush (<i>Erythroxylum australe</i>) and Sally wattle (<i>Acacia salicina</i>). Ground layer a mix of dark wiregrass (<i>Aristida calycina</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), wiregrass (<i>Aristida jerichoensis</i>), hairy panic (<i>Panicum effusum</i>), wanderrie grass (<i>Eriachne mucronata</i>), cotton panic (<i>Digitaria brownii</i>), forest love grass (<i>Eragrostis sororia</i>), red Natal grass (<i>Melinis repens</i>), sabi grass (<i>Urochloa mosambicensis</i>), shrub sida (<i>Sida rohlenae</i>), gomphrena weed (<i>Gomphrena celosioides</i>), shrubby stylo (<i>Stylosanthes scabra</i>) and bottle washers (<i>Enneapogon</i> sp.).
General Site Observations	Trees form the ecologically dominant stratum; an unmapped isolated remnant; dieback of larger trees detected, probably narrow-leaved ironbark or poplar box; fire scarring is evident; extensive wind damage from recent storms; low grazing disturbance.
Health	Good

Survey Code	
43	
Location	
Iffley Station	
Date	
9/03/2018	
Latitude	
-22.15142	
Longitude	
148.48042	
Slope:	
1-2°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands
Soil	Weathered sands
Height of EDS	17 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy of narrow-leaved ironbark (<i>Eucalyptus crebra</i>), Clarkson's bloodwood (<i>Corymbia clarksoniana</i>), small-fruited bloodwood (<i>C. trachyphloia</i>) and poplar box (<i>Eucalyptus populnea</i>), with a very sparse sub-canopy of Clarkson's bloodwood, carbeen (<i>C. tessellaris</i>), small-fruited bloodwood and narrow-leaved ironbark. Very sparse shrub layer of narrow-leaved ironbark, bean tree (<i>Cassia brewsteri</i>), red ash (<i>Alphitonia excelsa</i>), quinine (<i>Petalostigma pubescens</i>), currant bush (<i>Carissa ovata</i>), dead finish (<i>Archidendropsis basaltica</i>) and <i>Psydrax</i> sp. Ground layer is a mix of dark wiregrass (<i>Aristida calycina</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), black spear grass (<i>Heteropogon contortus</i>), golden beard grass (<i>Chrysopogon fallax</i>), wanderrie grass (<i>Eriachne mucronata</i>), buffel grass (<i>Cenchrus ciliaris</i>), sabi grass (<i>Urochloa mosambicensis</i>), shrub sida (<i>Sida rohlenae</i>), and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; an unmapped remnant separated by a 90 m gap from a larger area of remnant; some dieback detected; no fire scarring evident; low to moderate grazing disturbance.
Health	Good

Survey Code	
44	
Location	
Iffley	
Date	
9/03/2018	
Latitude	
-22.14521	
Longitude	
148.48261	
Slope:	
<1°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands, clays and gravels
Soil	Weathered sands with ironstone nodules
Height of EDS	Median height 10 m
Crown cover	40%
Mapped RE	11.3.35
Observed RE	11.5.8c - <i>Eucalyptus platyphylla</i> woodland on white-yellow weathered sands, with grassy ground layer (BVG 18a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse woodland dominated by poplar gum (<i>Eucalyptus platyphylla</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Very sparse sub-canopy of poplar gum, bull oak (<i>Allocasuarina luehmannii</i>), silver oak (<i>Grevilia parallela</i>) and sally wattle (<i>Acacia salicina</i>). Very sparse shrub layer of dead finish (<i>Archidendropsis basaltica</i>), bean tree (<i>Cassia brewsteri</i>), currant bush (<i>Carissa ovata</i>), quinine (<i>Petalostigma pubescens</i>), Sally wattle and red ash (<i>Alphitonia excelsa</i>). Ground layer a mix of erect kerosene grass (<i>Aristida holathera</i>), <i>Enneapogon virens</i> , wiregrass (<i>Aristida calycina</i>), shrubby stylo (<i>Stylosanthes scabra</i>), golden beard grass (<i>Chrysopogon fallax</i>), water bush (<i>Myoporum acuminatum</i>), bottlewashers (<i>Enneapogon lindleyanus</i>), black spear grass (<i>Heteropogon contortus</i>), shrub sida (<i>Sida rohlenae</i>) and Dysentery bush (<i>Grewia retusifolia</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy community with good recruitment; no erosion noted; no fire scars; the patch is approximately 2 km long and varying in width from 100 m to over 500 m, surrounded by scattered regrowth; low grazing pressure; incorrectly mapped as land zone 3.
Health	Good

Survey Code	
45	
Location	
Iffley Station	
Date	
9/03/2018	
Latitude	
-22.14391	
Longitude	
148.47695	
Slope:	
1-2°	
Aspect:	
E	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands and clays
Soil	Sandy light clay
Height of EDS	16 m
Crown cover	45%
Mapped RE	11.3.35
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with occasional narrow-leaved ironbark (<i>Eucalyptus crebra</i>). Very sparse sub-canopy of poplar box, narrow-leaved ironbark, Clarkson's bloodwood (<i>Corymbia dallachyana</i>) and brigalow (<i>Acacia harpophylla</i>). Very sparse shrub layer of yellow berry bush (<i>Denhamia cunninghamii</i>), currant bush (<i>Carissa ovata</i>), poison peach (<i>Ehretia membranifolia</i>), bean tree (<i>Cassia brewsteri</i>) and ironwood (<i>Acacia excelsa</i>). Ground layer is a mix of forest bluegrass (<i>Bothriochloa bladhii</i>), cotton panic (<i>Digitaria brownii</i>), barbed wire grass (<i>Cymbopogon refractus</i>), golden beard grass (<i>Chrysopogon fallax</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; there is thin band of RE 11.4.9 on the eastern side associated with a drainage gully; no fire scarring is evident; low grazing disturbance.
Health	Good

Survey Code	
46	
Location	
Iffley Station	
Date	
9/03/2018	
Latitude	
-22.13834	
Longitude	
148.47267	
Slope:	
<1°	
Aspect:	
-	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands
Soil	Weathered sands
Height of EDS	18 m
Crown cover	20%
Mapped RE	11.5.9c
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and poplar box (<i>Eucalyptus populnea</i>). Very sparse sub-canopy of Clarkson's bloodwood, poplar box and narrow-leaved ironbark. Very sparse shrub layer of narrow-leaved ironbark, bean tree (<i>Cassia brewsteri</i>), red ash (<i>Alphitonia excelsa</i>), yellow berry bush (<i>Denhamia cunninghamii</i>), currant bush (<i>Carissa ovata</i>), Sally wattle (<i>Acacia salicina</i>) and poplar box. Ground layer a mix of dark wiregrass (<i>Aristida calycina</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), black spear grass (<i>Heteropogon contortus</i>), golden beard grass (<i>Chrysopogon fallax</i>), kangaroo grass (<i>Themeda triandra</i>), buffel grass (<i>Cenchrus ciliaris</i>), red Natal grass (<i>Melinis repens</i>) and wiregrass (<i>Aristida jerichoensis</i>).
General Site Observations	Trees form the ecologically dominant stratum; a small and open patch with old disturbance evident; some dieback detected; no fire scarring evident; low to moderate grazing disturbance.
Health	Good

Survey Code	
47	
Location	
Iffley Station	
Date	
9/03/2018	
Latitude	
-22.14407	
Longitude	
148.49508	
Slope:	
1-2°	
Aspect:	
SSE	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands and clays
Soil	Sandy light clay
Height of EDS	17 m
Crown cover	35%
Mapped RE	Non-remnant
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and/or remnant surfaces BVG 17a
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy of Poplar box (<i>Eucalyptus populnea</i>), with a sparse sub-canopy of poplar box, Clarkson's bloodwood (<i>Corymbia dallachyana</i>), bean tree (<i>Cassia brewsteri</i>) and beefwood (<i>Grevilia striata</i>). Sparse shrub layer of quinine (<i>Petalostigma pubescens</i>), currant bush (<i>Carissa ovata</i>), poison peach (<i>Ehretia membranifolia</i>), bean tree and whitewood (<i>Atalaya hemiglauca</i>). Ground layer is a mix of forest bluegrass (<i>Bothriochloa bladhii</i>), forest lovegrass (<i>Eragrostis sororia</i>), red Natal grass (<i>Melinis repens</i>), golden beard grass (<i>Chrysopogon fallax</i>), dark wiregrass (<i>Aristida calycina</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; part of an unmapped and uncleared block of remnant vegetation inside a dam compound containing REs 11.5.8c, 11.5.1, 11.5.3 and 11.5.9 and is approximately 750 m by 1 km; no fire scarring evident; moderate grazing disturbance; separated by a 200 m clearing from an intact corridor to the east and south east.
Health	Good

Survey Code	
48	
Location	
Iffley	
Date	
9/03/2018	
Latitude	
-22.14986	
Longitude	
148.49950	
Slope:	
<1°	
Aspect:	
N	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands, clays and gravels
Soil	Weathered sands with ironstone nodules
Height of EDS	Median height 11 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.5.8c <i>Eucalyptus platyphylla</i> woodland on white-yellow weathered sands, with grassy ground layer (BVG 18a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse woodland dominated by poplar gum (<i>Eucalyptus platyphylla</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sparse sub-canopy of black wattle (<i>Acacia faucium</i>) and silver oak (<i>Grevillea parallela</i>). Very sparse shrub layer of cocaine bush (<i>Erythroxylum australe</i>), bean tree (<i>Cassia brewsteri</i>), currant bush (<i>Carissa ovata</i>), quinine (<i>Petalostigma pubescens</i>), albizia (<i>Albizia canescens</i>) and red ash (<i>Alphitonia excelsa</i>). Ground cover is a mix of wiregrass (<i>Aristida calycina</i>), shrubby stylo (<i>Stylosanthes scabra</i>), golden beard grass (<i>Chrysopogon fallax</i>), dysentery bush (<i>Grewia latifolia</i>), wiregrass (<i>Aristida jerichoensis</i>), sleepy morning (<i>Waltheria indica</i>), shrub sida (<i>Sida rohlenae</i>) and lovegrass (<i>Eragrostis</i> sp.).
General Site Observations	Trees form the ecologically dominant stratum; part of an unmapped and uncleared block of remnant vegetation inside a dam compound containing REs 11.5.8c, 11.5.1, 11.5.3 and 11.5.9 and is approximately 750 m by 1 km; no fire scarring evident; moderate grazing disturbance; separated by a 200 m clearing from an intact corridor to the east and south east.
Health	Good

Survey Code	
49	
Location	
Iffley	
Date	
9/03/2018	
Latitude	
-22.16066	
Longitude	
148.49407	
Slope:	
0°	
Aspect:	
NA	
General Site Description	
Landform	Closed depression
Lithology	Weathered sediments
Soil	Clay loam with weathered ironstone nodules
Height of EDS	15 m
Crown cover	30% - fringing vegetation around a large depression
Mapped RE	Non-remnant
Observed RE	11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains and remnant surfaces (BVG 34b)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse fringing canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with occasional poplar gum (<i>E. platyphylla</i>). No apparent sub-canopy or shrub layer. Ground layer dominated by spike rush (<i>Eleocharis philippinensis</i>) and inland couch (<i>Brachyachne convergens</i>), with occasional Prince's plume (<i>Persicaria</i> sp.), Indian heliotrope (<i>Heliotropium indicum</i>), white eclipta (<i>Eclipta platyglossa</i>), sesbania (<i>Sesbania cannabina</i>), water primrose (<i>Ludwigia peploides</i> subsp. <i>montevidensis</i>), and Budda pea (<i>Aeschynomene indica</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy community which has suffered a recent destructive wind event with many trees damaged; surrounded by patchy acacia and eucalypt regrowth of RE 11.9.5; extensive pig diggings; good recruitment; no erosion detected; no fire scarring evident.
Health	Good

Survey Code	
50	
Location	
Iffley Station	
Date	
9/03/2018	
Latitude	
-22.17966	
Longitude	
148.48967	
Slope:	
1-2°	
Aspect:	
ESE	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands
Soil	Weathered red sands
Height of EDS	16 m
Crown cover	30%
Mapped RE	11.5.9c / 11.5.9b (90 / 10)
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sparse sub-canopy of Clarkson's bloodwood, black wattle (<i>Acacia faucium</i>), silver oak (<i>Grevillea parallela</i>), quinine (<i>Petalostigma pubescens</i>) and narrow-leaved ironbark. Very sparse shrub layer of quinine, dead finish (<i>Archidendropsis basaltica</i>), red ash (<i>Alphitonia excelsa</i>), cocaine bush (<i>Erythroxylum australe</i>) and black wattle. Ground layer is a mix of dark wiregrass (<i>Aristida calycina</i>), shrub sida (<i>Sida rohlenae</i>), black spear grass (<i>Heteropogon contortus</i>), golden beard grass (<i>Chrysopogon fallax</i>), wanderrie grass (<i>Eriachne mucronata</i>), buffel grass (<i>Cenchrus ciliaris</i>), red Natal grass (<i>Melinis repens</i>), lovegrass (<i>Eragrostis</i> sp.), zornia (<i>Zornia dyctiocarpa</i> var. <i>filifolia</i>), pink tongues (<i>Rostellularia adscendens</i>) and wiregrass (<i>Aristida jerichoensis</i>).
General Site Observations	Trees form the ecologically dominant stratum; part of a large block of remnant vegetation approximately 6km by 7km, including Iffley Mountain, but with some fragmentation from roads, fence lines and localised clearing; low level dieback detected; minimal fire scarring; low grazing disturbance.
Health	Good

Survey Code	51	
Location	Iffley Station	
Date	9/03/2018	
Latitude	-22.19065	
Longitude	148.51286	
Slope:	1°	
Aspect:	-	
General Site Description		
Landform	Plain	
Lithology	Cainozoic sands	
Soil	Weathered red sands	
Height of EDS	17 m	
Crown cover	40%	
Mapped RE	11.5.3	
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and/or remnant surfaces (BVG 18b)	
Biodiversity Status	No Concern at Present	
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with occasional poplar box (<i>E. populnea</i>) and Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Very sparse sub-canopy of red ash (<i>Alphitonia excelsa</i>), quinine (<i>Petalostigma pubescens</i>) and narrow-leaved ironbark. Very sparse shrub layer of quinine, narrow-leaved ironbark, tea tree (<i>Melaleuca viridiflora</i>) and <i>Acacia</i> sp. Ground layer is a mix of dark wiregrass (<i>Aristida calycina</i>), golden beard grass (<i>Chrysopogon fallax</i>), wanderrie grass (<i>Eriachne mucronata</i>), buffel grass (<i>Cenchrus ciliaris</i>) and forest lovegrass (<i>Eragrostis sororia</i>).	
General Site Observations	Trees form the ecologically dominant stratum; part of a large block of remnant vegetation approximately 6km by 7km, including Iffley Mountain, but with some fragmentation from roads, fence lines and localised clearing; no dieback detected; old fire scarring evident; low grazing disturbance.	
Health	Good	

Survey Code	
52	
Location	
Iffley	
Date	
10/03/2018	
Latitude	
-22.19316	
Longitude	
148.53736	
Slope:	
0°	
Aspect:	
NA	
General Site Description	
Landform	Closed depression
Lithology	Weathered sediments
Soil	Clay loam with weathered ironstone nodules
Height of EDS	18 m
Crown cover	35% – fringing vegetation only
Mapped RE	Non-remnant
Observed RE	11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains and remnant surfaces (BVG 34b)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with a sparse shrub layer of Queensland blue gum in a fringe at the high water mark of the wetland. Ground layer dominated by inland couch (<i>Brachyachne convergens</i>) and spike rush (<i>Eleocharis philippinensis</i>), with occasional giant flat sedge (<i>Cyperus exaltatus</i>), flat spike sedge (<i>Eleocharis plana</i>), common nardoo (<i>Marsilea drummondii</i>) and Budda pea (<i>Aeschynomene indica</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy wetland which is close to a dam and consequently receives a high level of stock traffic and grazing; surrounded by cleared country with regrowth consistent with RE 11.5.9; apparent dieback of trees in the centre of the wetland and the fringe, possibly associated with raised water levels due to a bank on the eastern side; good recruitment; no erosion; no fire scarring.
Health	Good

Survey Code	
53	
Location	
Iffley Station	
Date	
10/03/2018	
Latitude	
-22.18399	
Longitude	
148.54034	
Slope:	
5°	
Aspect:	
SSE	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands and clays
Soil	Sandy light clay
Height of EDS	15 m
Crown cover	45%
Mapped RE	Non-remnant
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse to mid-dense canopy of poplar box (<i>Eucalyptus populnea</i>), with a very sparse sub-canopy of poplar box, Sally wattle (<i>Acacia salicina</i>) and vine tree (<i>Ventilago viminalis</i>). Sparse shrub layer of quinine (<i>Petalostigma pubescens</i>), currant bush (<i>Carissa ovata</i>), cocaine bush (<i>Erythroxylum australe</i>), bean tree, poplar box, Sally wattle, ironwood (<i>Acacia excelsa</i>), vine tree, red ash (<i>Alphitonia excelsa</i>) and water bush (<i>Myoporum acuminatum</i>). Ground layer is a mix of forest bluegrass (<i>Bothriochloa bladhii</i>), windmill grass (<i>Enteropogon ramosus</i>), buffel grass (<i>Cenchrus ciliaris</i>), golden beard grass (<i>Chrysopogon fallax</i>), dark wiregrass (<i>Aristida calycina</i>), shotgrass (<i>Paspalidium globoideum</i>), wanderrie grass (<i>Eriachne mucronata</i>), cotton panic (<i>Digitaria brownii</i>), sabi grass (<i>Urochloa mosambicensis</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; an unmapped block of remnant vegetation; fire scarring is evident; edge effects and moderate grazing and camping disturbance; separated by a 60 m clearing from a larger block of remnant vegetation to the north.
Health	Good

Survey Code	54	
Location	Iffley Station	
Date	10/03/2018	
Latitude	-22.17769	
Longitude	148.53732	
Slope:	<1°	
Aspect:	SW	
General Site Description		
Landform	Plain	
Lithology	Cainozoic clays	
Soil	Light clay with slight gilgai relief	
Height of EDS	7 m	
Crown cover	50%	
Mapped RE	11.4.9	
Observed RE	11.4.9 <i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains (BVG 25a)	
Biodiversity Status	Endangered	
Dominant vegetation observed	Mid-dense canopy dominated by brigalow (<i>Acacia harpophylla</i>), with occasional yellowwood (<i>Terminalia oblongata</i>). Very sparse shrub layer of brigalow and yellowwood. Ground layer contains brigalow grass (<i>Paspalidium caespitosum</i>), windmill grass (<i>Enteropogon acicularis</i>), fairy grass (<i>Sporobolus caroli</i>), clustered lovegrass (<i>Eragrostis elongatus</i>), rush (<i>Cyperus concinnus</i>), brown beetle grass (<i>Diplachne fusca</i> var. <i>fusca</i>), <i>Eragrostis</i> sp. and <i>Cyperus</i> sp.	
TEC status	<u>Not</u> a TEC: Median canopy height is inconsistent with the benchmark for this community. Vegetation structure and species composition is inconsistent with the benchmark and technical description for this community.	
General Site Observations	Trees form the ecologically dominant stratum; an area of advanced regrowth without the structure or species composition that would be expected of a mature community; likely cleared in the late 1970s; no fire scarring is evident; moderate grazing and camping disturbance; low level of exotic weeds.	
Health	Average	

Survey Code	
55	
Location	
Iffley Station	
Date	
10/03/2018	
Latitude	
-22.17373	
Longitude	
148.53623	
Slope:	
<1°	
Aspect:	
SW	
General Site Description	
Landform	Plain
Lithology	Cainozoic clays
Soil	Light clay with slight gilgai relief
Height of EDS	8 m
Crown cover	50%
Mapped RE	11.5.3
Observed RE	11.4.9 <i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Mid-dense canopy dominated by brigalow (<i>Acacia harpophylla</i>), with and frequent yellowwood (<i>Terminalia oblongata</i>) and occasional coolabah (<i>Eucalyptus coolabah</i>). Very sparse shrub layer of brigalow and yellowwood. Ground layer contains brigalow grass (<i>Paspalidium caespitosum</i>), windmill grass (<i>Enteropogon acicularis</i>), fairy grass (<i>Sporobolus caroli</i>), clustered lovegrass (<i>Eragrostis elongatus</i>), rush (<i>Cyperus concinnus</i>), brown beetle grass (<i>Diplachne fusca</i> var. <i>fusca</i>), <i>Eragrostis</i> sp. and <i>Cyperus</i> sp.
TEC status	<u>Not</u> a TEC: Median canopy height is inconsistent with the benchmark for this community. Vegetation structure and species composition is inconsistent with the benchmark and technical description for this community.
General Site Observations	Trees form the ecologically dominant stratum; an area of advanced regrowth without the structure or species composition that would be expected of a mature community; likely cleared in the late 1970s; no fire scarring is evident; moderate grazing and camping disturbance; low level of exotic weeds.
Health	Average

Survey Code	56
Location	Iffley Station
Date	10/03/2018
Latitude	-22.16227
Longitude	148.52786
Slope:	<1°
Aspect:	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands and clays
Soil	Sandy light clay
Height of EDS	17 m
Crown cover	40%
Mapped RE	11.5.3
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy of poplar box (<i>Eucalyptus populnea</i>), with a very sparse sub-canopy of poplar box and bull oak (<i>Allocasuarina luehmannii</i>). Very sparse shrub layer of bull oak, currant bush (<i>Carissa ovata</i>), poison peach (<i>Ehretia membranifolia</i>), bean tree (<i>Cassia brewsteri</i>), poplar box, Sally wattle (<i>Acacia salicina</i>), yellow berry bush (<i>Denhamia cunninghamii</i>) and red ash (<i>Alphitonia excelsa</i>). Ground layer is a mix of pitted bluegrass (<i>Bothriochloa decipiens</i>), oat grass (<i>Themeda avenacea</i>), buffel grass (<i>Cenchrus ciliaris</i>), golden beard grass (<i>Chrysopogon fallax</i>), dark wiregrass (<i>Aristida calycina</i>), Indian couch (<i>Bothriochloa pertusa</i>), common fringe rush (<i>Fimbristylis dichotoma</i>), dysentery bush (<i>Grewia retusifolia</i>), <i>Eragrostis</i> sp. and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; a small patch of healthy remnant vegetation, approximately 300 m by 150 m; no fire scarring evident; edge effects are minimal; this area is generally fragmented and the patch is separated by a 100 m clearing from a larger block of remnant vegetation to the north; surrounding areas carry moderate levels of poplar box regrowth and would provide good connectivity options.
Health	Good



Survey Code	
57	
Location	
Iffley	
Date	
10/03/2018	
Latitude	
-22.15359	
Longitude	
148.50859	
Slope:	
1-2°	
Aspect:	
SW	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands, clays and gravels
Soil	Weathered sands with ironstone nodules
Height of EDS	Median height 8 m
Crown cover	20%
Mapped RE	11.5.9b
Observed RE	11.5.8c - <i>Eucalyptus platyphylla</i> woodland on white-yellow weathered sands, with grassy ground layer (BVG 18a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse woodland dominated by poplar gum (<i>Eucalyptus platyphylla</i>), with occasional Sally wattle (<i>Acacia salicina</i>) and Bull oak (<i>Allocasuarina luehmannii</i>). Very sparse sub-canopy of quinine (<i>Petalostigma pubescens</i>) and silver oak (<i>Grevillea parallela</i>). Very sparse shrub layer of silver oak, quinine, <i>Acacia</i> sp., quinine (<i>Petalostigma pubescens</i>), wild orange (<i>Capparis umbonata</i>) and red ash (<i>Alphitonia excelsa</i>). Ground cover includes a mix of wiregrass (<i>Aristida</i> sp.), forest bluegrass (<i>Bothriochloa bladhii</i>), oat grass (<i>Themeda avenacea</i>), black spear grass (<i>Heteropogon contortus</i>) and forest lovegrass (<i>Eragrostis sororia</i>).
General Site Observations	Trees form the ecologically dominant stratum; part of a block of remnant vegetation approximately 360 m x 450 m; no fire scarring is evident; moderate grazing disturbance; separated to the north by a 200 m clearing from an intact corridor to the east and south east.
Health	Good

Survey Code	58	
Location	Iffley Station	
Date	10/03/2018	
Latitude	-22.15151	
Longitude	148.52844	
Slope:	1-2°	
Aspect:	ENE	
General Site Description		
Landform	Plain	
Lithology	Cainozoic sands and clays	
Soil	Sandy light clay	
Height of EDS	17 m	
Crown cover	50%	
Mapped RE	Non-remnant	
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and/or remnant surfaces (BVG 17a)	
Biodiversity Status	No Concern at Present	
Dominant vegetation observed	Mid-dense canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Very sparse sub-canopy of poplar box, red ash (<i>Alphitonia excelsa</i>) and quinine (<i>Petalostigma pubescens</i>). Sparse shrub layer of quinine, currant bush (<i>Carissa ovata</i>) and bean tree (<i>Cassia brewsteri</i>). Ground layer contains wiregrass (<i>Aristida jerichoensis</i>), dark wiregrass (<i>Aristida calycina</i>), hairy panic (<i>Panicum effusum</i>), shrub sida (<i>Sida rohlenae</i>), golden beard grass (<i>Chrysopogon fallax</i>), creeping phyllanthus (<i>Phyllanthus virgatus</i>), black spear grass (<i>Heteropogon contortus</i>), sabi grass (<i>Urochloa mosambicensis</i>), barbed wire grass (<i>Cymbopogon refractus</i>), cotton panic (<i>Digitaria brownii</i>), hairy goodenia (<i>Goodenia hirsuta</i>), pink tongues (<i>Rostellularia adscendens</i>), tropical speedwell (<i>Evolvulus alsinoides</i>), <i>Vigna</i> sp. and shrubby stylo (<i>Stylosanthes scabra</i>).	
General Site Observations	Trees form the ecologically dominant stratum; a small patch of unmapped remnant vegetation, approximately 250 m by 150 m, which provides important connectivity in a fragmented area; no fire scarring evident; edge effects are minimal; this area is generally fragmented and the patch is separated by a 70 m clearing from a linear riparian corridor to the north and a similar distance from other remnant vegetation to the south; no fire scarring evident.	
Health	Good	

Survey Code	59
Location	Iffley Station
Date	10/03/2018
Latitude	-22.14577
Longitude	148.53548
Slope:	3-5°
Aspect:	SE
General Site Description	
Landform	Plain
Lithology	Cainozoic sands and clays
Soil	Sandy light clay
Height of EDS	17 m
Crown cover	35%
Mapped RE	Non-remnant
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy of poplar box (<i>Eucalyptus populnea</i>), with a very sparse sub-canopy of poplar box, scrub leopardwood (<i>Flindersia dissosperma</i>), bean tree (<i>Cassia brewsteri</i>) and false sandalwood (<i>Eremophila mitchellii</i>). Sparse shrub layer of scrub leopardwood, currant bush (<i>Carissa ovata</i>), vine tree (<i>Ventilago viminalis</i>), poplar box and whitewood (<i>Atalaya hemiglauc</i>). Ground layer contains dark wiregrass (<i>Aristida calycina</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), golden beard grass (<i>Chrysopogon fallax</i>) and buffel grass (<i>Cenchrus ciliaris</i>).
General Site Observations	Trees form the ecologically dominant stratum; a small patch of unmapped remnant vegetation, approximately 300 m by 200 m, which provides important connectivity in a fragmented area; no fire scarring evident; edge effects are minimal; this area is generally fragmented and the patch is separated by a 250 m clearing from a linear riparian corridor to the south and south east; no fire scarring evident.
Health	Good



Survey Code	60	
Location	Iffley	
Date	10/03/2018	
Latitude	-22.19983	
Longitude	148.53331	
Slope:	0°	
Aspect:	NA	
General Site Description		
Landform	Closed depression	
Lithology	Weathered sediments	
Soil	Clay loam with weathered ironstone nodules	
Height of EDS	17 m	
Crown cover	35%	
Mapped RE	Non-remnant	
Observed RE	11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains and remnant surfaces (BVG 34b)	
Biodiversity Status	Endangered	
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Very sparse sub-canopy of Queensland blue gum. Very sparse shrub layer of Queensland blue gum, tea tree (<i>Melaleuca viridiflora</i>) and cocaine tree (<i>Erythroxylum australe</i>). Ground layer dominated by common couch (<i>Cynodon dactylon</i>), with occasional spike rush (<i>Eleocharis philippinensis</i>), sneezeweed (<i>Centipeda minima</i>), entire marshwort (<i>Nymphoides geminata</i>), forest bluegrass (<i>Bothriochloa bladhii</i>) and Budda pea (<i>Aeschynomene indica</i>).	
General Site Observations	Trees form the ecologically dominant stratum; a small patch approximately 100 m diameter; a disturbed community which is close to a dam and likely used as a cattle camp; surrounded by patchy acacia and eucalypt regrowth of RE 11.9.5; some pig diggings; good recruitment; no erosion; no fire scarring; dieback of larger trees observed.	
Health	Good	

Survey Code	
61	
Location	
Iffley	
Date	
10/03/2018	
Latitude	
-22.23316	
Longitude	
148.46735	
Slope:	
0°	
Aspect:	
NA	
General Site Description	
Landform	Closed depression
Lithology	Weathered sediments
Soil	Clay loam with weathered ironstone nodules
Height of EDS	16 m
Crown cover	30%
Mapped RE	11.3.27b
Observed RE	11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains and remnant surfaces (BVG 34b)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with a sparse sub-canopy of Queensland blue gum saplings. Very sparse shrub layer of Queensland blue gum and parkinsonia (<i>Parkinsonia aculeata</i>). Ground layer dominated by inland couch (<i>Brachyachne convergens</i>), with brown beetle grass (<i>Diplachne fusca</i> var. <i>fusca</i>), sneezeweed (<i>Centipeda minima</i>), Indian heliotrope (<i>Heliotropium indicum</i>), white eclipta (<i>Eclipta prostrata</i>), Prince's plume (<i>Persicaria</i> sp.), awnless barnyard grass (<i>Echinochloa colona</i>) and creeping phyllanthus (<i>Phyllanthus virgatus</i>).
General Site Observations	Trees form the ecologically dominant stratum; a large wetland which has been modified for a double cell dam on the northern end; a disturbed community which is likely over-used as a cattle camp and grazing area; some pig diggings; good recruitment, but mostly young vegetation with few hollows; no erosion; no fire scarring evident; dieback of large and small trees observed.
Health	Good

Survey Code	
62	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.05166	
Longitude	
148.48420	
Slope:	
<1°	
Aspect:	
ENE	
General Site Description	
Landform	Closed depression – swamp
Lithology	Alluvial sandstone sediments
Soil	Light clay
Height of EDS	18 m
Crown cover	35%
Mapped RE	11.3.27b
Observed RE	11.3.27f <i>Eucalyptus coolabah</i> and / or <i>E. tereticornis</i> open woodland to woodland fringing swamps (BVG 34d)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy of Queensland blue gum (<i>Eucalyptus tereticornis</i>), with a very sparse sub-canopy of Queensland blue gum regrowth saplings scattered throughout. Shrub layer absent. Ground layer dominated by flat spike rush (<i>Eleocharis plana</i>), with occasional budda pea (<i>Aeschynomene indica</i>), shiny nardoo (<i>Marsilea mutica</i>) and inland couch (<i>Brachyachne convergens</i>).
General Site Observations	Trees form the ecologically dominant stratum; an ephemeral wetland currently wet from recent rains; an isolated remnant but with good linkages to other vegetation through advanced regrowth 11.3.2 and 11.5.3; moderate recruitment; no erosion; no dieback detected; fire scars absent; this wetland has been modified by the inclusion of a dam cell which intensifies cattle impacts from grazing and camping.
Health	Very good

Survey Code	
63	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.05654	
Longitude	
148.47370	
Slope:	
19°	
Aspect:	
NA	
General Site Description	
Landform	Rise – steep low peak
Lithology	Igneous rocks
Soil	Rocks to light clay
Height of EDS	10 m
Crown cover	10%
Mapped RE	11.5.9c
Observed RE	11.12.7 <i>Eucalyptus crebra</i> woodland with patches of semi-evergreen vine thicket on igneous rocks (boulder-strewn hillsides) (BVG 13c)
Biodiversity Status	Of Concern
Dominant vegetation observed	Very sparse and disconnected canopy of narrow-leaved ironbark (<i>Eucalyptus crebra</i>), Dallachy's gum (<i>Corymbia dallachyana</i>) and Crow's ash (<i>Flindersia australis</i>), with no discernible sub-canopy. Mid-dense (60%) shrub layer containing strychnine tree (<i>Strychnos psilosperma</i>), small-leaved ebony (<i>Diospyros humilis</i>), chain fruit (<i>Alyxia ruscifolia</i>), yellow tulipwood (<i>Drypetes deplanchei</i>), silver croton (<i>Croton insularis</i>), Brazilian nightshade (<i>Solanum seaforthianum</i>), native grape (<i>Cayratia clematidea</i>), brush senna (<i>Senna acclinis</i>), tie bush (<i>Wikstroemia indica</i>), yellow lemon (<i>Planchonella cotinifolia</i>), currant bush (<i>Carissa ovata</i>), grey birds eye (<i>Alectryon connatus</i>), <i>Psydrax</i> sp., cocaine bush (<i>Erythroxylum australe</i>), corky milk vine (<i>Secamone elliptica</i>) and wombat berry (<i>Eustrephus latifolius</i>). Sparse ground layer limited to open soil areas between boulders and contains buffel grass (<i>Cenchrus ciliaris</i>), wandering Jew (<i>Commelina diffusa</i>), red Natal grass (<i>Melinis repens</i>), green panic (<i>Megathyrsus maximus</i>) and <i>Cheilanthes</i> sp.
General Site Observations	Trees form the ecologically dominant stratum, although the shrub layer is a considerable component of the biomass; a small extrusion of volcanic material through the surrounding sand plain; good recruitment; no erosion; no dieback detected; fire scars absent; moderate infestation of exotic species.
Health	Good

Survey Code	
64	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.05470	
Longitude	
148.46794	
Slope:	
2-3°	
Aspect:	
E	
General Site Description	
Landform	Plain
Lithology	Cainozoic sands and clays
Soil	Sandy light clay
Height of EDS	18 m
Crown cover	30%
Mapped RE	11.5.3 / 11.5.9c / 11.4.9 (85 / 10 / 5)
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy of poplar box (<i>Eucalyptus populnea</i>), with a sparse sub-canopy of scrub leopardwood (<i>Flindersia dissosperma</i>), vine tree (<i>Ventilago viminalis</i>), false sandalwood (<i>Eremophila mitchellii</i>) and occasional brigalow (<i>Acacia harpophylla</i>). Sparse shrub layer of currant bush (<i>Carissa ovata</i>), vine tree, coffee bush (<i>Breynia oblongifolia</i>), whitewood (<i>Atalaya hemiglauc</i>) and narrow-leaved bumbil (<i>Capparis loranthifolia</i>). Ground layer contains dark wiregrass (<i>Aristida calycina</i>), windmill grass (<i>Enteropogon ramosus</i>), golden beard grass (<i>Chrysopogon fallax</i>), bottle washers (<i>Enneapogon</i> sp.), pastel flower (<i>Pseuderanthemum variabile</i>), tropical speedwell (<i>Evolvulus alsinoides</i>), <i>Eragrostis</i> sp. and buffel grass (<i>Cenchrus ciliaris</i>).
General Site Observations	Trees form the ecologically dominant stratum; part of a large block of vegetation approximately 3 km by 1.2 km, which connects two significant watercourses running to the east and south east; no fire scarring evident; trees down from recent storms; some gully erosion within the patch which may have historical origins in old tracks throughout the patch; no fire scarring evident; the larger patch is surrounded by advanced regrowth of poplar box and Dawson gum with good connectivity values.
Health	Good

Survey Code	65	
Location	Twenty Mile	
Date	11/03/2018	
Latitude	-22.05430	
Longitude	148.46267	
Slope:	1-2°	
Aspect:	SE	
General Site Description		
Landform	Plain	
Lithology	Fine sediments (Cainozoic era mudstone and siltstone)	
Soil	Light clay	
Height of EDS	18 m	
Crown cover	40%	
Mapped RE	11.5.3 / 11.5.9c / 11.4.9 (85 / 10 / 5)	
Observed RE	11.4.8 <i>Eucalyptus cambageana</i> woodland to open forest with <i>Acacia harpophylla</i> or <i>A. argyrodendron</i> on Cainozoic clay plains (BVG 17a)	
Biodiversity Status	Endangered	
Dominant vegetation observed	Sparse canopy dominated by Dawson gum (<i>Eucalyptus cambageana</i>), with frequent poplar box (<i>E. populnea</i>). Sparse sub-canopy of scrub leopardwood (<i>Flindersia dissosperma</i>), false sandalwood (<i>Eremophila mitchellii</i>), vine tree (<i>Ventilago viminalis</i>) and Dallachy's gum (<i>Corymbia dallachiana</i>). Sparse shrub layer of currant bush (<i>Carissa ovata</i>), cocaine tree (<i>Erythroxylum australe</i>), poison peach (<i>Ehretia membranifolia</i>), false sandalwood, poplar box and shiny-leaved canthium (<i>Psydrax odorata</i> subsp. <i>buxifolia</i>). Ground layer contains buffel grass (<i>Cenchrus ciliaris</i>), wiregrass (<i>Aristida jerichoensis</i>), hooky grass (<i>Ancistrachne uncinulata</i>), hairy panic (<i>Panicum effusum</i>), lovegrass (<i>Eragrostis</i> sp.), orange spade flower (<i>Afrohybanthus enneaspermus</i>) and golden beard grass (<i>Chrysopogon fallax</i>).	
General Site Observations	Trees form the ecologically dominant stratum; part of a large block of vegetation approximately 3 km by 1.2 km, which connects two significant watercourses running to the east and south east; no fire scarring evident; trees down from recent storms; the larger patch is surrounded by advanced regrowth of Poplar box and Dawson gum with good connectivity values	
TEC status	Not a TEC due to the absence of brigalow.	
Health	Good	

Survey Code	
66	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.05103	
Longitude	
148.45895	
Slope:	
5°	
Aspect:	
E	
General Site Description	
Landform	Plain – minor drainage
Lithology	Fine sediments (Cainozoic era mudstone and siltstone)
Soil	Light clay
Height of EDS	25 m
Crown cover	60%
Mapped RE	11.4.9 / 11.4.8 (70 / 30)
Observed RE	11.4.9 <i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Mid-dense canopy dominated by belah (<i>Casuarina cristata</i>), with occasional brigalow (<i>Acacia harpophylla</i>) and poplar box (<i>Eucalyptus populnea</i>). Sparse sub-canopy of yellowwood (<i>Terminalia oblongata</i>), brigalow, false sandalwood (<i>Eremophila mitchellii</i>) and wilga (<i>Geijera parviflora</i>). Mid-dense shrub layer of wilga, currant bush (<i>Carissa ovata</i>), cocaine bush (<i>Erythroxylum australe</i>), poison peach (<i>Ehretia membranifolia</i>), false sandalwood, stiff denhamia (<i>Denhamia oleaster</i>), sandalwood (<i>Santalum lanceolatum</i>) and wombat berry (<i>Eustrephus latifolius</i>). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), with occasional wiregrass (<i>Aristida</i> sp.), hooky grass (<i>Ancistrachne uncinulata</i>), lantern flower (<i>Abutilon</i> sp.) and <i>Nyssanthes erecta</i> .
General Site Observations	Trees form the ecologically dominant stratum; a narrow strip of retained vegetation (approx. 80m wide) along a drainage gully which joins a large block of vegetation to the east; no fire scarring evident; the larger patch is surrounded by advanced regrowth of poplar box and Dawson gum, which consolidates this section.
TEC status	<u>Not</u> a TEC due to brigalow being only an occasional species. Exotic grasses also dominate the ground layer.
Health	Good

Survey Code	
67	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.04631	
Longitude	
148.46566	
Slope:	
5°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Fine sediments (Cainozoic era mudstone and siltstone)
Soil	Light clay
Height of EDS	22 m
Crown cover	45%
Mapped RE	11.4.9 / 11.4.8 (70 / 30)
Observed RE	11.4.9 <i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse to mid-dense canopy dominated by belah (<i>Casuarina cristata</i>), with occasional Dawson gum (<i>Eucalyptus cambageana</i>). Sparse sub-canopy dominated by yellowwood (<i>Terminalia oblongata</i>), with occasional brigalow (<i>Acacia harpophylla</i>). Mid-dense shrub layer dominated by currant bush (<i>Carissa ovata</i>), with occasional wilga (<i>Geijera parviflora</i>), desert jasmine (<i>Jasminum didymum</i> subsp. <i>lineare</i>), red olive plum (<i>Elaeodendron australe</i>), Nelia (<i>Acacia oswaldii</i>), scrub boonaree (<i>Alectryon diversifolius</i>) and emu apple (<i>Owenia acidula</i>). Ground layer contains wiregrass (<i>Aristida jerichoensis</i>), hooky grass (<i>Ancistrachne uncinulata</i>), windmill grass (<i>Enteropogon ramosus</i>), shotgrass (<i>Paspalidium distans</i>), potato weed (<i>Solanum ellipticum</i>), mauve clustervine (<i>Jacquemontia paniculata</i>) and dysentery bush (<i>Grewia latifolia</i>).
General Site Observations	Trees form the ecologically dominant stratum; part of a large block of vegetation approximately 3 km by 1.2 km, which connects two significant watercourses running to the east and south east; no fire scarring evident; the larger patch is surrounded by advanced regrowth of Poplar box and Dawson gum; a large number of trees have been blown down in recent storms.
TEC status	<u>Not</u> a TEC due to brigalow being only an occasional species.
Health	Good

Survey Code	68	
Location	Twenty Mile	
Date	11/03/2018	
Latitude	-22.04944	
Longitude	148.46940	
Slope:	1-2°	
Aspect:	S	
General Site Description		
Landform	Plain	
Lithology	Fine sediments (Cainozoic era mudstone and siltstone)	
Soil	Light clay	
Height of EDS	20 m	
Crown cover	15%	
Mapped RE	11.5.3 / 11.5.9c / 11.4.9 (85 / 10 / 5)	
Observed RE	11.4.8 <i>Eucalyptus cambageana</i> woodland to open forest with <i>Acacia harpophylla</i> or <i>A. argyrodendron</i> on Cainozoic clay plains (BVG 17a)	
Biodiversity Status	Endangered	
Dominant vegetation observed	Very sparse canopy of Dawson gum (<i>Eucalyptus cambageana</i>), with a mid-dense sub-canopy dominated by brigalow (<i>Acacia harpophylla</i>), with occasional sandalwood (<i>Santalum lanceolatum</i>). Sparse shrub layer of currant bush (<i>Carissa ovata</i>), yellowwood (<i>Terminalia oblongata</i>), narrow-leaved bumbil (<i>Capparis loranthifolia</i>), sandalwood, emu apple (<i>Owenia acidula</i>), false sandalwood (<i>Eremophila mitchellii</i>), Stiff denhamia (<i>Denhamia oleaster</i>) and shiny-leaved canthium (<i>Psydrax odorata</i> subsp. <i>buxifolia</i>). Very sparse ground layer of hooky grass (<i>Ancistrachne uncinulata</i>), ruby saltbush (<i>Enchylaena tomentosa</i>), chaff flower (<i>Achyranthes aspera</i>), potato bush (<i>Solanum ellipticum</i>), goosefoot (<i>Dysphania pumilio</i>), basket grass (<i>Oplismenus aemulus</i>), mauve clustervine (<i>Jacquemontia paniculata</i>) and shot grass (<i>Paspalidium distans</i>).	
General Site Observations	Trees form the ecologically dominant stratum in this small patch; part of a large block of vegetation approximately 3 km by 1.2 km, which connects two significant watercourses running to the east and south east; no fire scarring evident; the brigalow component appears to be either advanced regrowth or naturally occurring 11.4.8 sub-canopy; the larger patch is surrounded by advanced regrowth of poplar box and Dawson gum with good connectivity values.	
TEC status	TEC likely.	
Health	Good	

Survey Code	
69	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.02612	
Longitude	
148.45859	
Slope:	
5°	
Aspect:	
S	
General Site Description	
Landform	Plain
Lithology	Fine sediments (Cainozoic era mudstone and siltstone)
Soil	Light clay with small cobble
Height of EDS	15 m
Crown cover	50%
Mapped RE	11.4.9
Observed RE	11.4.9 <i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Mid-dense canopy of Brigalow (<i>Acacia harpophylla</i>), with a very sparse sub-canopy of brigalow and yellowwood (<i>Terminalia oblongata</i>). Sparse shrub layer dominated by currant bush (<i>Carissa ovata</i>), with occasional desert jasmine (<i>Jasminum didymum</i> subsp. <i>lineare</i>), yellowwood, false sandalwood (<i>Eremophila mitchellii</i>), slender grape (<i>Clematicissus opaca</i>) and brigalow senna (<i>Senna coronilloides</i>). Ground layer contains brigalow grass (<i>Paspalidium caespitosum</i>) and buffel grass (<i>Cenchrus ciliaris</i>).
General Site Observations	Trees form the ecologically dominant stratum; part of a large block of vegetation which runs to the south east along Bundarra Creek; no fire scarring evident; low grazing impacts.
TEC status	TEC confirmed.
Health	Good

Survey Code	
70	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.03280	
Longitude	
148.46077	
Slope:	
1-2°	
Aspect:	
SE	
General Site Description	
Landform	Watercourse - Creek
Lithology	Alluvial sediments
Soil	Sand
Height of EDS	25 m
Crown cover	30%
Mapped RE	11.3.2 / 11.3.25 / 11.3.1 (50 / 25 / 25)
Observed RE	11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines (BVG 16a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by forest red-gum (<i>Eucalyptus tereticornis</i>) and river tea tree (<i>Melaleuca fluviatilis</i>), with frequent carbeen (<i>Corymbia tessellaris</i>) and occasional poplar box (<i>E. populnea</i>), narrow-leaved ironbark (<i>E. crebra</i>), ribbonwood (<i>Euroschinus falcata</i>) and crow's ash (<i>Flindersia australis</i>). Sparse sub-canopy of forest red-gum, river tea tree, brigalow (<i>Acacia harpophylla</i>) and white bauhinia (<i>Lysiphyllum hookeri</i>). Sparse shrub layer of lantana (<i>Lantana camara</i>), sandpaper fig (<i>Ficus opposita</i>), white bauhinia, bushweed (<i>Flueggea leucopyrus</i>), quinine (<i>Petalostigma pubescens</i>), acalypha (<i>Acalypha eremorum</i>), bat's wing coral (<i>Erythrina vespertilio</i>), cherry ballart (<i>Exocarpos latifolius</i>), cassine (<i>Elaeodendron australe</i>), small-leaved ebony (<i>Diospyros humilis</i>), narrow-leaved bumbil (<i>Capparis loranthifolia</i>) and monkey rope (<i>Parsonsia straminea</i>). Ground layer dominated by green panic (<i>Megathyrsus maximus</i>) and buffel grass (<i>Cenchrus ciliaris</i>), with occasional Indian couch (<i>Bothriochloa pertusa</i>), Long-leaved mat rush (<i>Lomandra longifolia</i>) and <i>Cyperus</i> sp.
General Site Observations	Trees form the ecologically dominant stratum; a relatively young community with some larger trees with hollows; part of the Bundarra Creek corridor; good recruitment; normal watercourse erosion, no dieback detected; fire scars absent; semi-permanent rocky waterholes.
Health	Good

Survey Code	
71	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.02978	
Longitude	
148.50118	
Slope:	
1-2°	
Aspect:	
SE	
General Site Description	
Landform	Watercourse - Creek
Lithology	Alluvial sediments
Soil	Sand
Height of EDS	18 m
Crown cover	35%
Mapped RE	11.3.2
Observed RE	11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines (BVG 16a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>) and river tea tree (<i>Melaleuca fluviatilis</i>), with frequent carbeen (<i>Corymbia tessellaris</i>), narrow-leaved ironbark (<i>E. crebra</i>), red bloodwood (<i>C. erythrophloia</i>) and crow's ash (<i>Flindersia australis</i>). Sparse sub-canopy of red bloodwood, emu apple (<i>Owenia acidula</i>) and sandalwood (<i>Santalum lanceolatum</i>). Sparse shrub layer of lantana (<i>Lantana camara</i>), sandpaper fig (<i>Ficus opposita</i>), quinine (<i>Petalostigma pubescens</i>) and forest red gum. Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), with occasional Indian couch (<i>Bothriochloa pertusa</i>), sabi grass (<i>Urochloa mosambicensis</i>), blue billygoat weed (<i>Ageratum houstonianum</i>), wild jack bean (<i>Canavalia papuana</i>), clustered lovegrass (<i>Eragrostis elongata</i>) and parthenium (<i>Parthenium hysterophorus</i>).
General Site Observations	Trees form the ecologically dominant stratum; a relatively young community in a narrow riparian corridor; provides a continuous linkage from a large remnant to the north through to the Bundarra Creek corridor; good recruitment; normal watercourse erosion, no dieback detected; evidence of fire.
Health	Good

Survey Code	
72	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.03071	
Longitude	
148.50624	
Slope:	
4°	
Aspect:	
W	
General Site Description	
Landform	Plain – minor drainage
Lithology	Fine sediments (Cainozoic era mudstone and siltstone)
Soil	Light clay
Height of EDS	16 m
Crown cover	40%
Mapped RE	11.5.2
Observed RE	11.4.8 <i>Eucalyptus cambageana</i> woodland to open forest with <i>Acacia harpophylla</i> or <i>A. argyrodendron</i> on Cainozoic clay plains (BVG 17a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy dominated by brigalow (<i>Acacia harpophylla</i>), with abundant belah (<i>Casuarina cristata</i>) and occasional Dawson gum (<i>Eucalyptus cambageana</i>). Sparse sub-canopy of brigalow and yellowwood (<i>Terminalia oblongata</i>). Mid-dense shrub layer dominated by currant bush (<i>Carissa ovata</i>), with abundant yellowwood (<i>Terminalia oblongata</i>) and frequent silver croton (<i>Croton insularis</i>). Ground layer contains hooky grass (<i>Ancistrachne uncinulata</i>), brigalow grass (<i>Paspalidium caespitosum</i>) and buffel grass (<i>Cenchrus ciliaris</i>).
General Site Observations	Trees form the ecologically dominant stratum in this small linear patch; retained timber along a gully line providing some connectivity between remnant 11.5.9 to the east and watercourses flowing south to Bundarra Creek; likely old fire damage and edge effect from initial clearing possibly contributing to the shrubby nature of the patch: low level of exotic groundcover plants.
TEC status	TEC likely.
Health	Good

Survey Code	
73	
Location	
Twenty Mile	
Date	
11/03/2018	
Latitude	
-22.03223	
Longitude	
148.51273	
Slope:	
1-2°	
Aspect:	
NW	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy loam
Height of EDS	20 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sparse sub-canopy of black wattle (<i>Acacia faucium</i>), rosewood (<i>Acacia rhodoxylon</i>) and red bloodwood (<i>Corymbia erythrophloia</i>). Sparse to mid-dense shrub layer dominated by quinine (<i>Petalostigma pubescens</i>), with abundant tea tree (<i>Melaleuca viridiflora</i>), frequent Clarkson's bloodwood (F), occasional rosewood, black wattle (<i>Acacia leiocalyx</i>) and Red ash (<i>Alphitonia excelsa</i>). Ground layer speices included buffel grass (<i>Cenchrus ciliaris</i>), common fringe rush (<i>Fimbristylis dichotoma</i>), shrubby stylo (<i>Stylosanthes scabra</i>), wiregrasses (<i>Aristida jerichoensis</i> and <i>Aristida</i> sp.), golden beard grass (<i>Chrysopogon fallax</i>) and creeping phyllanthus (<i>Phyllanthus virgatus</i>).
General Site Observations	Trees form the ecologically dominant stratum; naturally open woodland on sandy soils; good recruitment; some fire scars evident; some natural dieback; native and introduced grasses; cleared strip to south has older regrowth acacias that have died and fallen.
Health	Good

Survey Code	
74	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.09460	
Longitude	
148.48058	
Slope:	
<1°	
Aspect:	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy light clay – ironstone nodules
Height of EDS	16 m
Crown cover	30%
Mapped RE	11.5.3 / 11.4.9 / 11.3.35 / 11.5.9c (80 / 10 / 5 / 5)
Observed RE	11.5.3 Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces BVG 17a
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>E. populnea</i>), with occasional vine tree (<i>Ventilago viminalis</i>) and beefwood (<i>Grevillea striata</i>). Very sparse sub-canopy of poplar box. Sparse shrub layer of false sandalwood (<i>Eremophila mitchellii</i>), currant bush (<i>Carissa ovata</i>), bean tree (<i>Cassia brewsteri</i>), Dallachy's gum (<i>Corymbia dallachiana</i>), vine tree, dysentery bush (<i>Grewia retusifolia</i>) and whitewood (<i>Atalaya hemiglauca</i>). Ground layer contains curly bluegrass (<i>Dichanthium fecundum</i>), Indian couch (<i>Bothriochloa pertusa</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), golden beard grass (<i>Chrysopogon fallax</i>), dark wiregrass (<i>Aristida calycina</i>), hairy panic (<i>Panicum effusum</i>), <i>Cyperus</i> sp. and native wedelia (<i>Apowollastonia spilanthoides</i>).
General Site Observations	Trees form the ecologically dominant stratum; a mature but disturbed community with the occasional hollow-bearing older tree; part of an isolated and irregularly shaped patch approximately 400 m by 400 m; moderate recruitment; no erosion detected; no dieback detected; no fire scarring evident.
Health	Good

Survey Code	
75	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.093699	
Longitude	
148.507025	
Slope:	
1-2°	
Aspect:	
NE	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy loam
Height of EDS	19 m
Crown cover	20%
Mapped RE	Non-remnant
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Very sparse canopy of narrow-leaved ironbark (<i>Eucalyptus crebra</i>) with a sparse sub-canopy of narrow-leaved ironbark, poplar box (<i>Eucalyptus populnea</i>), bean tree (<i>Cassia brewsteri</i>), prickly pine (<i>Bursaria incana</i>), poplar gum (<i>Eucalyptus platyphylla</i>) and tea tree (<i>Melaleuca viridiflora</i>). Sparse shrub layer of currant bush (<i>Carissa ovata</i>), quinine (<i>Petalostigma pubescens</i>), cocaine bush (<i>Erythroxylum australe</i>), narrow-leaved ironbark, prickly pine, bean tree and poplar gum. Ground layer includes Indian couch (<i>Bothriochloa pertusa</i>), silky umbrella grass (<i>Digitaria ammophila</i>), shrubby stylo (<i>Stylosanthes scabra</i>), dark wiregrass (<i>Aristida calycina</i>), golden beard grass (<i>Chrysopogon fallax</i>), purple spadeflower (<i>Afrohybanthus enneaspermus</i>), buffel grass (<i>Cenchrus ciliaris</i>), shrub sida (<i>Sida rohlenae</i>), forest lovegrass (<i>Eragrostis sororia</i>), blue burr daisy (<i>Calotis cuneifolia</i>) and black spear grass (<i>Heteropogon contortus</i>).
General Site Observations	Trees form the ecologically dominant stratum; moderate recruitment; no fire scars evident; some natural dieback; mostly native grasses.
Health	Good

Survey Code	
76	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.09208	
Longitude	
148.49396	
Slope:	
0°	
Aspect:	
General Site Description	
Landform	Closed depression
Lithology	Weathered sediments
Soil	Clay loam / light clay with weathered ironstone nodules
Height of EDS	18 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains and remnant surfaces BVG 34b
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse fringing canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with frequent poplar gum (<i>Eucalyptus platyphylla</i>). Mid-dense sub-canopy of Queensland blue gum and poplar gum. No shrub evident. Ground layer dominated by inland couch (<i>Brachyachne convergens</i>), with occasional Prince's plume (<i>Persicaria</i> sp.)
General Site Observations	Trees form the ecologically dominant stratum in a high water fringe; a healthy community but likely suffering from high stock impacts; surrounded by mostly cleared country with no linkage to other remnant vegetation; pig diggings are evident with mobs of pigs present at the time of survey; good recruitment; no erosion; no fire scarring; partly wet at time of survey from recent rains.
Health	Average

Survey Code	
77	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.08205	
Longitude	
148.49895	
Slope:	
1-2°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Cainozoic; sandstone sediments
Soil	Light clay
Height of EDS	19 m
Crown cover	30%
Mapped RE	11.3.1
Observed RE	11.3.1 <i>Acacia harpophylla</i> and / or <i>Casuarina cristata</i> open forest on alluvial plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Open forest with sparse canopy dominated by belah (<i>Casuarina cristata</i>), with abundant Dawson gum (<i>Eucalyptus cambageana</i>). Sparse sub-canopy dominated by yellowwood (<i>Terminalia oblongata</i>), with abundant belah, frequent red bauhinia (<i>Lysiphyllum carronii</i>), and occasional emu apple (<i>Owenia acidula</i>). Mid-dense shrub layer dominated by currant bush (<i>Carissa ovata</i>), with abundant yellowwood and scrub boonaree (<i>Alectryon diversifolius</i>). Ground layer contains buffel grass (<i>Cenchrus ciliaris</i>), sabi grass (<i>Urochloa mosambicensis</i>), Indian couch (<i>Bothriochloa pertusa</i>) and fairy grass (<i>Sporobolus caroli</i>).
General Site Observations	Trees form the ecologically dominant stratum; healthy community with dense shrubby understory; drainage line (gully) on the eastern side; moderate recruitment and good health; some natural dieback detected; fire scars absent; large amount of recent wind storm damage evident; high proportion of exotic species in the ground layer.
TEC status	Not a TEC. No brigalow detected in this patch.
Health	Average

Survey Code	
78	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.06437	
Longitude	
148.49923	
Slope:	
1-2°	
Aspect:	
NE	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy light clay
Height of EDS	16 m
Crown cover	40%
Mapped RE	Non-remnant
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with frequent poplar box (<i>Eucalyptus populnea</i>) and Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sparse sub-canopy of narrow-leaved ironbark, poplar box, bean tree (<i>Cassia brewsteri</i>), carbeen (<i>Corymbia tessellaris</i>) and Clarkson's bloodwood. Sparse shrub layer of currant bush (<i>Carissa ovata</i>), cocaine (<i>Erythroxylum australe</i>), narrow-leaved ironbark, Clarkson's bloodwood, bean tree and poplar box. Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), with occasional dark wiregrass (<i>Aristida calycina</i>), golden beard grass (<i>Chrysopogon fallax</i>), woolly glycine (<i>Glycine tomentella</i>) and Paddy's lucerne (<i>Sida rhombifolia</i>).
General Site Observations	Trees form the ecologically dominant stratum; good recruitment; fire scars evident; mostly exotic grasses, ecotone between 11.5.9 and 11.5.3; a small patch separated by 50 m clearing from a large block of remnant vegetation to the east.
Health	Good

Survey Code	
79	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.06951	
Longitude	
148.50352	
Slope:	
1-2°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Cainozoic clays
Soil	Light clay with gilgai relief
Height of EDS	15 m
Crown cover	30%
Mapped RE	11.4.9 / 11.5.3 (90 / 10)
Observed RE	11.4.9 <i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy dominated by brigalow (<i>Acacia harpophylla</i>), with occasional belah (<i>Casuarina cristata</i>). Sparse sub-canopy of brigalow, yellowwood (<i>Terminalia oblongata</i>), belah and Dawson gum (<i>Eucalyptus cambageana</i>). Mid-dense shrub layer dominated by currant bush (<i>Carissa ovata</i>), with frequent brigalow and yellowwood, and occasional wilga (<i>Geijera parviflora</i>) and brigalow cassia (<i>Senna coronilloides</i>). Ground layer is dominated in parts by buffel grass (<i>Cenchrus ciliaris</i>), with other species including brigalow grass (<i>Paspalidium caespitosum</i>), windmill grass (<i>Enteropogon ramosus</i>), fairy grass (<i>Sporobolus caroli</i>), <i>Dipteracanthus australasicus</i> , Indian couch (<i>Bothriochloa pertusa</i>), green panic (<i>Megathyrsus maximus</i>) and <i>Aristida</i> sp.
TEC status	TEC likely: Exotic ground cover is patchy and reduces with distance from clearings. Average exotic cover for the patch would be less than 50%.
General Site Observations	Trees form the ecologically dominant stratum; an area of healthy remnant; no fire scarring is evident; low grazing and camping disturbance; low to medium level of exotic weeds; part of the Bundarra creek riparian corridor.
Health	Good

Survey Code	80	
Location	Twenty Mile	
Date	12/03/2018	
Latitude	-22.07291	
Longitude	148.50384	
Slope:	1-2°	
Aspect:	E	
General Site Description		
Landform	Plain	
Lithology	Fine sediments (Cainozoic era mudstone and siltstone)	
Soil	Light clay	
Height of EDS	18 m	
Crown cover	20%	
Mapped RE	11.4.9 / 11.5.3 (90 / 10)	
Observed RE	11.4.9 <i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains (BVG 25a)	
Biodiversity Status	Endangered	
Dominant vegetation observed	Sparse canopy of Dawson gum (<i>Eucalyptus cambageana</i>), with a sparse sub-canopy of brigalow (<i>Acacia harpophylla</i>), belah (<i>Casuarina cristata</i>), yellowwood (<i>Terminalia oblongata</i>) and wilga (<i>Geijera parviflora</i>). Sparse shrub layer of currant bush (<i>Carissa ovata</i>), wilga, cocaine tree (<i>Erythroxylum australe</i>), yellowwood, nipan (<i>Capparis lasiantha</i>) and bean tree (<i>Cassia brewsteri</i>). Ground layer contains buffel grass (<i>Cenchrus ciliaris</i>), hooky grass (<i>Ancistrachne uncinulata</i>) and brigalow grass (<i>Paspalidium caespitosum</i>).	
General Site Observations	Trees form the ecologically dominant stratum; a healthy brigalow patch within the Bundarra creek riparian corridor; good recruitment; erosion absent; no dieback detected; fire scars absent; some wind damage from recent storms.	
TEC status	TEC confirmed. Elements at this location indicate minor occurrence of RE 11.4.8, but across the wider unit RE 11.4.9 dominates.	
Health	Good	

Survey Code	
81	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.07576	
Longitude	
148.50588	
Slope:	
1-2°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Alluvial sediments
Soil	Sandy light clay
Height of EDS	22 m
Crown cover	45%
Mapped RE	11.3.2 / 11.3.25 / 11.3.1 (65 / 30 / 5)
Observed RE	11.3.2 <i>Eucalyptus populnea</i> woodland on alluvial plains (BVG 17a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Very sparse sub-canopy of poplar box, ironwood (<i>Acacia excelsa</i>) and Clarkson's bloodwood. Sparse shrub layer of yellow berry bush (<i>Denhamia cunninghamii</i>), dysentery bush (<i>Grewia latifolia</i>), poplar box, bean tree (<i>Cassia brewsteri</i>) and Sally wattle (<i>Acacia salicina</i>). Ground layer contains buffel grass (<i>Cenchrus ciliaris</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), liquorice weed (<i>Scoparia dulcis</i>), long-leaved mat rush (<i>Lomandra longifolia</i>) and mauve clustervine (<i>Jacquemontii paniculata</i>).
General Site Observations	Trees form the ecologically dominant stratum; a mature community with live and dead hollow trees present; part of the riparian corridor associated with Bundarra Creek 900 m wide at this point; good recruitment; low erosion; some old fire scars evident; significant wind damage from recent storms.
Health	Good

Survey Code	
82	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.07928	
Longitude	
148.50500	
Slope:	
1-2°	
Aspect:	
ESE	
General Site Description	
Landform	Plain
Lithology	Cainozoic; sandstone sediments
Soil	Light clay with gilgai
Height of EDS	11 m
Crown cover	65%
Mapped RE	11.3.2 / 11.3.25 / 11.3.1 (65 / 30 / 5)
Observed RE	11.3.1 <i>Acacia harpophylla</i> and / or <i>Casuarina cristata</i> open forest on alluvial plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Mid-dense canopy dominated by brigalow (<i>Acacia harpophylla</i>), with occasional yellowwood (<i>Terminalia oblongata</i>) and white bauhinia (<i>Lysiphyllum hookeri</i>). Very sparse sub-canopy of yellowwood, belah (<i>Casuarina cristata</i>), brigalow and white bauhinia. Sparse shrub layer dominated by currant bush (<i>Carissa ovata</i>), with occasional false sandalwood (<i>Eremophila mitchellii</i>), poison peach (<i>Ehretia membranifolia</i>), brigalow senna (<i>Senna coronilloides</i>), narrow-leaved bumbil (<i>Capparis loranthifolia</i>) and Ellangowan poison bush (<i>Myoporum deserti</i>). Ground layer contains buffel grass (<i>Cenchrus ciliaris</i>), shot grass (<i>Paspalidium globoideum</i>), brigalow grass (<i>Paspalidium caespitosum</i>), hooky grass (<i>Ancistrachne uncinulata</i>), slender flat sedge (<i>Cyperus gracilis</i>) and <i>Abutilon</i> sp.
General Site Observations	Trees form the ecologically dominant stratum; a relatively young community; located close to Bundarra Creek with some alluvial elements; good recruitment and good health; no dieback detected; fire scars absent; low level of exotic species; low grazing impacts
TEC status	TEC confirmed.
Health	Good

Survey Code	
83	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.07663	
Longitude	
148.51750	
Slope:	
1°	
Aspect:	
E	
General Site Description	
Landform	Plain
Lithology	Cainozoic clays
Soil	Light clay
Height of EDS	20 m
Crown cover	15%
Mapped RE	11.4.9 / 11.5.3 (90 / 10)
Observed RE	11.4.9 <i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Very sparse higher canopy dominated by Dawson gum (<i>Eucalyptus cambageana</i>) and belah (<i>Casuarina cristata</i>). Sparse sub-canopy of yellowwood (<i>Terminalia oblongata</i>) and belah. Sparse shrub layer of yellowwood, scrub boonaree (<i>Alectryon diversifolius</i>) and small-leaved ebony (<i>Diospyros humilis</i>). Ground layer dominated by brigalow grass (<i>Paspalidium caespitosum</i>).
TEC status	Not a TEC. Brigalow is not part of this community
General Site Observations	Trees form the ecologically dominant stratum; an area suffering historical clearing disturbance with edge effects and concentrated stock camping; no fire scarring evident; low level of exotic weeds within the patch; narrow retained strip of vegetation approximately 70 m wide with exotic pasture and patchy regrowth adjacent.
Health	Average to poor

Survey Code	
84	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.03739	
Longitude	
148.50707	
Slope:	
5°	
Aspect:	
NE	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy light clay
Height of EDS	16 m
Crown cover	40%
Mapped RE	11.3.2
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy of narrow-leaved ironbark (<i>Eucalyptus crebra</i>). Very sparse sub-canopy of narrow-leaved ironbark, black wattle (<i>Acacia faucium</i>) and Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Very sparse shrub layer of currant bush (<i>Carissa ovata</i>), quinine (<i>Petalostigma pubescens</i>), <i>Acacia</i> sp. and tea tree (<i>Melaleuca viridiflora</i>). Ground layer contains dark wiregrasses (<i>Aristida calycina</i>), golden beard grass (<i>Chrysopogon fallax</i>), forest lovegrass (<i>Eragrostis sororia</i>), creeping phyllanthus (<i>Phyllanthus virgatus</i>), shrubby stylo (<i>Stylosanthes scabra</i>), flannel bush (<i>Sida cordifolia</i>), handsome lovegrass (<i>Eragrostis speciosa</i>) and dark Rhodes grass (<i>Chloris inflata</i>).
General Site Observations	Trees form the ecologically dominant stratum; good recruitment; minor fire scars evident; mostly native grasses; erosion from old tracks running down the slope in the area.
Health	Good

Survey Code	85	
Location	Twenty Mile	
Date	12/03/2018	
Latitude	-22.03908	
Longitude	148.51662	
Slope:	2-3°	
Aspect:	S	
General Site Description		
Landform	Plain	
Lithology	Old weathered sediments	
Soil	Sandy red loam	
Height of EDS	17 m	
Crown cover	30%	
Mapped RE	Non-remnant	
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)	
Biodiversity Status	No Concern at Present	
Dominant vegetation observed	Naturally sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with abundant Clarkson's bloodwood (<i>Corymbia clarksoniana</i>), occasional Dallachy's gum (<i>C. dallachiana</i>) and carbeen (<i>C. tessellaris</i>) (O). Sparse sub-canopy of prickly pine (<i>Bursaria incana</i>), narrow-leaved ironbark and Clarkson's bloodwood. Sparse shrub layer of currant bush (<i>Carissa ovata</i>), quinine (<i>Petalostigma pubescens</i>), prickly pine and shiny-leaved canthium (<i>Psydrax odorata</i> subsp. <i>buxifolia</i>). Ground layer dominated by Indian couch, (<i>Bothriochloa pertusa</i>), with dark wiregrasses (<i>Aristida calycina</i>), large podded trefoil (<i>Desmodium macrocarpum</i>), velvet hibiscus (<i>Melhanhia oblongifolia</i>) and dysentery bush (<i>Grewia retusifolia</i>).	
General Site Observations	Trees form the ecologically dominant stratum; good recruitment; fire scars evident; mostly exotic grasses; no erosion; damage from recent storms.	
Health	Good	

Survey Code	
86	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.04168	
Longitude	
148.52064	
Slope:	
2-3°	
Aspect:	
SW	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy red loam
Height of EDS	18 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Naturally sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>) with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). No obvious sub-canopy. Sparse shrub layer of cocaine bush (<i>Erythroxylum australe</i>), quinine (<i>Petalostigma pubescens</i>), prickly pine (<i>Bursaria incana</i>), dysentery bush (<i>Grewia retusifolia</i>) and bean tree (<i>Cassia brewsteri</i>). Ground layer contains golden beard grass (<i>Chrysopogon fallax</i>), dark wiregrasses (<i>Aristida calycina</i>), cotton panic (<i>Digitaria brownii</i>), creeping phyllanthus (<i>Phyllanthus virgatus</i>), shrubby stylo (<i>Stylosanthes scabra</i>), buffel grass (<i>Cenchrus ciliaris</i>) and native wedelia (<i>Apowollastonia spilanthisoides</i>).
General Site Observations	Trees form the ecologically dominant stratum; good recruitment; fire scars not evident but likely to have been burned periodically; mostly native grasses; no erosion; low grazing impacts.
Health	Good

Survey Code	
87	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.05254	
Longitude	
148.52557	
Slope:	
1-2°	
Aspect:	
E	
General Site Description	
Landform	Plain
Lithology	Cainozoic clays
Soil	Light clay
Height of EDS	20 m
Crown cover	45%
Mapped RE	11.4.9 / 11.5.3 (90 / 10)
Observed RE	11.4.9 <i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse to mid-dense canopy of belah (<i>Casuarina cristata</i>), with a sparse sub-canopy of yellowwood (<i>Terminalia oblongata</i>), Dawson gum (<i>Eucalyptus cambageana</i>) and nelia (<i>Acacia oswaldii</i>). Sparse shrub layer of currant bush (<i>Carissa ovata</i>), brigalow senna (<i>Senna coronilloides</i>), Dawson gum and water bush (<i>Myoporum acuminatum</i>). Ground layer contains brigalow grass (<i>Paspalidium caespitosum</i>) and buffel grass (<i>Cenchrus ciliaris</i>).
TEC status	<u>Not</u> a TEC: Brigalow does not form part of this community.
General Site Observations	Trees form the ecologically dominant stratum; a retained shade clump of remnant belah which is isolated in the landscape with low levels of surrounding regrowth; no fire scarring evident; large amounts of woody debris; low level of exotic weeds; patch size much smaller than the State mapped polygon.
Health	Good

Survey Code	
88	
Location	
Twenty Mile	
Date	
12/03/2018	
Latitude	
-22.05871	
Longitude	
148.53356	
Slope:	
1-2°	
Aspect:	
E	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy red loam
Height of EDS	17 m
Crown cover	20%
Mapped RE	Non-remnant
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Naturally sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and Dallachy's gum (<i>C. dallachyana</i>). Very sparse sub-canopy of narrow-leaved ironbark and tea tree (<i>Melaleuca viridiflora</i>). Very sparse shrub layer of quinine (<i>Petalostigma pubescens</i>) and Clarkson's bloodwood. Ground layer contains golden beard grass (<i>Chrysopogon fallax</i>), hairy panic (<i>Panicum effusum</i>), desert lantern (<i>Abutilon otocarpum</i>), tall sida (<i>Sida rohlenae</i>), flannel weed (<i>Sida cordifolia</i>), shrubby stylo (<i>Stylosanthes scabra</i>), Indian couch (<i>Bothriochloa pertusa</i>), wiregrass (<i>Aristida</i> sp.) and common fringe rush (<i>Fimbristylis dichotoma</i>).
General Site Observations	Trees form the ecologically dominant stratum; moderate recruitment; fire scars are obvious; mostly native grasses; no erosion; low grazing impacts.
Health	Good

Survey Code	
89	
Location	
Twenty Mile	
Date	
13/03/2018	
Latitude	
-22.07673	
Longitude	
148.46092	
Slope:	
0°	
Aspect:	
General Site Description	
Landform	Closed depression
Lithology	Weathered sediments
Soil	Light clay with weathered ironstone nodules
Height of EDS	15 m
Crown cover	40%
Mapped RE	Non-remnant
Observed RE	11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains and remnant surfaces (BVG 34b)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with frequent poplar gum (<i>Eucalyptus platyphylla</i>). Very sparse sub-canopy of Queensland blue gum. No shrub layer. Ground layer dominated by inland couch (<i>Brachyachne convergens</i>) and entire marshwort (<i>Nymphoides geminata</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy community with up to 50% of the area an open treeless swamp; surrounded by advanced eucalypt regrowth of RE 11.5.3; minor pig diggings; good recruitment; no erosion detected; no fire scarring evident.
Health	Good

Survey Code	
90	
Location	
Twenty Mile	
Date	
13/03/2018	
Latitude	
-22.07150	
Longitude	
148.44922	
Slope:	
1-2°	
Aspect:	
N	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy light clay
Height of EDS	16 m
Crown cover	35%
Mapped RE	Non-remnant
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with frequent Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and occasional vine tree (<i>Ventilago viminalis</i>). Very sparse sub-canopy of false sandalwood (<i>Eremophila mitchellii</i>), poplar box, ironwood (<i>Acacia excelsa</i>), bean tree (<i>Cassia brewsteri</i>) and Clarkson's bloodwood. Sparse shrub layer of lime bush (<i>citrus glauca</i>), currant bush (<i>Carissa ovata</i>), quinine (<i>Petalostigma pubescens</i>), vine tree, false sandalwood, whitewood (<i>Atalaya hemiglauca</i>), stiff denhamia (<i>Denhamia oleaster</i>) and cocaine bush (<i>Erythroxylum australe</i>). Ground layer contains Jericho wiregrass (<i>Aristida jerichoensis</i>), buffel grass (<i>Cenchrus ciliaris</i>), forest bluegrass (<i>Bothriochloa bladhii</i>), pitted bluegrass (<i>Bothriochloa decipiens</i>), bottlewashers (<i>Enneapogon</i> sp.) and northern silkpod (<i>Parsonsia lanceolata</i>).
General Site Observations	Trees form the ecologically dominant stratum; a narrow strip retained along the western boundary fence (85 m wide); mostly young trees, with some older dead trees; no fire scarring evident.
Health	Good

Survey Code	
91	
Location	
Twenty Mile	
Date	
13/03/2018	
Latitude	
-22.06493	
Longitude	
148.45079	
Slope:	
1-2°	
Aspect:	
E	
General Site Description	
Landform	Watercourse - Creek
Lithology	Alluvial sediments
Soil	Sand
Height of EDS	17 m
Crown cover	35%
Mapped RE	11.3.2 / 11.3.25 / 11.3.1 (65 / 30 / 5)
Observed RE	11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines (BVG 16a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with frequent Clarkson's bloodwood (<i>Corymbia clarksoniana</i>), occasional carbeen (<i>C. tessellaris</i>) and Dallachy's gum (<i>C. dallachiana</i>). Sparse sub-canopy of white bauhinia (<i>Lysiphyllum hookeri</i>), bean tree (<i>Cassia brewsteri</i>), red ash (<i>Alphitonia excelsa</i>), belah (<i>Casuarina cristata</i>), Clarkson's bloodwood and ironwood (<i>Acacia excelsa</i>). Very sparse shrub layer of quinine (<i>Petalostigma pubescens</i>) and currant bush (<i>Carissa ovata</i>). Ground layer contains green panic (<i>Megathyrsus maximus</i>), buffel grass (<i>Cenchrus ciliaris</i>), golden beard grass (<i>Chrysopogon fallax</i>), oat grass (<i>Themeda avenacea</i>), kangaroo grass (<i>T. triandra</i>), dark wiregrass (<i>Aristida calycina</i>), wandering jew (<i>Commelina diffusa</i>), smooth goodenia (<i>Goodenia glabra</i>) and hairy glycine (<i>Glycine tomentosa</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy community with a good mix of ages; good linkage to vegetation in the east, although the riparian corridor is considerably narrowed by clearing; natural dieback with old hollow stags; fire scars absent; advanced regrowth on the southern side of this creek with remnant 11.3.2 to the north.
Health	Good

Survey Code	
92	
Location	
Twenty Mile	
Date	
13/03/2018	
Latitude	
-22.06164	
Longitude	
148.45190	
Slope:	
1-2°	
Aspect:	
S	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy light clay – ironstone nodules
Height of EDS	16 m
Crown cover	40%
Mapped RE	11.5.3 / 11.4.9 / 11.3.35 / 11.5.9c (80 / 10 / 5 / 5)
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>E. populnea</i>), with occasional vine tree (<i>Ventilago viminalis</i>) and ironwood (<i>Acacia excelsa</i>). Very sparse sub-canopy of poplar box, bean tree (<i>Cassia brewsteri</i>), quinine (<i>Petalostigma pubescens</i>), false sandalwood (<i>Eremophila viminalis</i>) and vine tree. Very sparse shrub layer of currant bush (<i>Carissa ovata</i>), quinine, dysentery bushes (<i>Grewia latifolia</i> and <i>G. retusifolia</i>), cocaine (<i>Erythroxylum australe</i>), vine tree, lime bush (<i>Citrus glauca</i>) and whitewood (<i>Atalaya hemiglauca</i>). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), with occasional dark wiregrass (<i>Aristida calycina</i>).
General Site Observations	Trees form the ecologically dominant stratum; a mature community with occasional hollow-bearing older trees; part of an isolated patch approximately 300 m by 250 m; good recruitment; no erosion; no dieback detected; no fire scarring evident; surrounded by advanced regrowth of mostly <i>E. populnea</i> .
Health	Good

Survey Code	93	
Location	Twenty Mile	
Date	13/03/2018	
Latitude	-22.06493	
Longitude	148.46760	
Slope:	1-2°	
Aspect:	SSW	
General Site Description		
Landform	Plain	
Lithology	Alluvial sediments	
Soil	Sandy light clay	
Height of EDS	16 m	
Crown cover	30%	
Mapped RE	11.3.2 / 11.3.25 / 11.3.1 (65 / 30 / 5)	
Observed RE	11.3.2 <i>Eucalyptus populnea</i> woodland on alluvial plains (BVG 17a)	
Biodiversity Status	Of Concern	
Dominant vegetation observed	Sparse canopy of poplar box (<i>Eucalyptus populnea</i>), with a very sparse sub-canopy of poplar box, ironwood (<i>Acacia excelsa</i>), whitewood (<i>Atalaya hemiglauca</i>) and albizia (<i>Albizia canescens</i>). Sparse shrub layer of currant bush (<i>Carissa ovata</i>), cocaine bush (<i>Erythroxylum australe</i>), shiny-leaved canthium (<i>Psydrax odorata</i> subsp. <i>buxifolia</i>), whitewood, bean tree (<i>Cassia brewsteri</i>), ironwood (<i>Acacia excelsa</i>) and wild orange (<i>Capparis umbonata</i>). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), with occasional Jericho wiregrass (<i>Aristida jerichoensis</i>), dark wiregrass (<i>Aristida calycina</i>), <i>Eragrostis</i> sp., Indian couch (<i>Bothriochloa pertusa</i>), golden beard grass (<i>Chrysopogon fallax</i>), pink tongues (<i>Rostellularia adscendens</i>), indigofera colutea (<i>Sticky indigo</i>), native Wedelia (<i>Apowollastonia spilanthoides</i>), wandering Jew (<i>Commelina diffusa</i>), pastel flower (<i>Pseuderanthemum variabile</i>), <i>Enneapogon</i> sp., <i>Eragrostis</i> sp., Murray lily (<i>Crinum flaccidum</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).	
General Site Observations	Trees form the ecologically dominant stratum; a mature community with few hollow trees; close to the junction of two minor watercourses and part of an extensive riparian corridor to the west and east; part of a large block of intact remnant to the north with linkages to Bundarra Creek; good recruitment; low erosion; no obvious fire scars evident; low grazing pressure.	
Health	Good	

Survey Code	94	
Location	Twenty Mile	
Date	13/03/2018	
Latitude	-22.04372	
Longitude	148.47891	
Slope:	2-5°	
Aspect:	SW	
General Site Description		
Landform	Plain	
Lithology	Alluvial sediments	
Soil	Sandy light clay	
Height of EDS	17 m	
Crown cover	35%	
Mapped RE	11.3.2 / 11.3.25 / 11.3.1 (50 / 25 / 25)	
Observed RE	11.3.2 <i>Eucalyptus populnea</i> woodland on alluvial plains (BVG 17a)	
Biodiversity Status	Of Concern	
Dominant vegetation observed	Sparse canopy dominated by Poplar box (<i>Eucalyptus populnea</i>), with occasional narrow-leaved ironbark (<i>E. crebra</i>). Sparse sub-canopy dominated by false sandalwood (<i>Eremophila mitchellii</i>), with occasional red ash (<i>Alphitonia excelsa</i>), emu apple (<i>Owenia acidula</i>), scrub boonaree (<i>Alectryon oleifolius</i>) and ironwood (<i>Acacia excelsa</i>). Sparse shrub layer dominated by currant bush (<i>Carissa ovata</i>), with abundant Dysentery bush (<i>Grewia latifolia</i>), occasional cocaine bush (<i>Erythroxylum australe</i>), poison peach (<i>Ehretia membranifolia</i>), lantana (<i>Lantana camara</i>) and bushweed (<i>Flueggea leucopyrus</i>). Ground layer contains Jericho wiregrass (<i>Aristida jerichoensis</i>), wiregrass (<i>Aristida queenslandica</i>), shot grass (<i>Paspalidium distans</i>), buffel grass (<i>Cenchrus ciliaris</i>), barbed wire grass (<i>Cymbopogon refractus</i>), forest lovegrass (<i>Eragrostis sororia</i>) and mauve clustervine (<i>Jacquemontia paniculata</i>).	
General Site Observations	Trees form the ecologically dominant stratum; a mature community with numerous old hollow-bearing trees; part of the Bundarra Creek riparian corridor 350 m wide at this point; good recruitment; low erosion; no obvious fire scars evident; low grazing pressure.	
Health	Good	

Survey Code	
95	
Location	
Twenty Mile	
Date	
13/03/2018	
Latitude	
-22.04409	
Longitude	
148.47669	
Slope:	
1-2°	
Aspect:	
ESE	
General Site Description	
Landform	Watercourse - Creek
Lithology	Alluvial sediments
Soil	Sand
Height of EDS	27 m
Crown cover	35%
Mapped RE	11.3.2 / 11.3.25 / 11.3.1 (50 / 25 / 25)
Observed RE	11.3.25 <i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines (BVG 16a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Sparse canopy dominated by Queensland blue gum (<i>Eucalyptus tereticornis</i>), with abundant tea tree (<i>Melaleuca fluviatilis</i>), occasional Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and carbeen (<i>C. tessellaris</i>). Sparse sub-canopy of white bauhinia (<i>Lysiphyllum hookeri</i>), Queensland blue gum, red ash (<i>Alphitonia excelsa</i>), tea tree and Clarkson's bloodwood. Sparse shrub layer of white bauhinia, acalypha (<i>Acalypha eremorum</i>), Lantana (<i>Lantana camara</i>), monkey rope (<i>Parsonsia straminea</i>) small-leaved ebony (<i>Diospyros humilis</i>), crows ash (<i>Flindersia australis</i>) and sandpaper fig (<i>Ficus opposita</i>). Ground layer dominated by green panic (<i>Megathyrsus maximus</i>), with frequent long-leaved mat rush (<i>Lomandra longifolia</i>) and blady grass (<i>Imperata cylindrica</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy community with a good mix of ages; part of the Bundarra Creek riparian corridor; fire scars absent; sandwiched between remnant 11.3.2 and 11.5.9; areas of active erosion on adjacent Landzone 5 to the south, which is contributing to sediment load in the creek.
Health	Good

Survey Code	
96	
Location	
Twenty Mile	
Date	
13/03/2018	
Latitude	
-22.02836	
Longitude	
148.48669	
Slope:	
10°	
Aspect:	
S	
General Site Description	
Landform	Low rises
Lithology	Rocks and soils of metamorphic origin
Soil	Slate pebbles and rock with shallow light clay
Height of EDS	20 m
Crown cover	30%
Mapped RE	11.11.1 / 11.11.9 / 11.3.25 (60 / 30 / 10)
Observed RE	11.11.1 <i>Eucalyptus crebra</i> +/- <i>Acacia rhodoxylon</i> woodland on old sedimentary rocks with varying degrees of metamorphism and folding (BVG13c)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with occasional Dallachy's gum (<i>Corymbia dallachiana</i>). Sparse sub-canopy of prickly pine (<i>Bursaria incana</i>), narrow-leaved ironbark, quinine (<i>Petalostigma pubescens</i>), black tea tree (<i>Acacia faucium</i>) and rosewood (<i>A. rhodoxylon</i>). Sparse shrub layer of cocaine bush (<i>Erythroxylum australe</i>), quinine, prickly pine, red ash (<i>Alphitonia excelsa</i>) and bean tree (<i>Cassia brewsteri</i>). Ground layer contains buffel grass (<i>Cenchrus ciliaris</i>), dark wiregrass (<i>Aristida calycina</i>), red Natal grass (<i>Melinis repens</i>), shrubby stylo (<i>Stylosanthes scabra</i>), pineapple daisy (<i>Pterocaulon redolens</i>), <i>Vittadinia pustulata</i> , <i>Sida hackettiana</i> , sleepy morning (<i>Waltheria indica</i>), velvet hibiscus (<i>Melhania oblongifolia</i>), <i>Enneapogon</i> sp., creeping phyllanthus (<i>Phyllanthus virgata</i>), <i>glycine trifoliata</i> and <i>Zornia dyctiocarpa</i> var. <i>filifolia</i> .
General Site Observations	Trees form the ecologically dominant stratum; a healthy, but mostly young, community; the southern extent of a large block of remnant vegetation to the north, mostly cleared to the south; low erosion; fire scars evident.
Health	Good

Survey Code	
97	
Location	
Twenty Mile	
Date	
13/03/2018	
Latitude	
-22.02951	
Longitude	
148.48299	
Slope:	
3-5°	
Aspect:	
E	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy light clay
Height of EDS	16 m
Crown cover	30%
Mapped RE	Non-remnant
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy of poplar box (<i>Eucalyptus populnea</i>), with a sparse sub-canopy of false sandalwood (<i>Eremophila mitchellii</i>), rosewood (<i>Acacia rhodoxylon</i>), scrub leopard ash (<i>Flindersia dissosperma</i>) and boonaree (<i>Alectryon oleifolius</i>). Mid-dense shrub layer dominated by currant bush (<i>Carissa ovata</i>), with abundant scrub leopard ash, occasional vine tree (<i>Ventilago viminalis</i>) and whitewood (<i>Atalaya hemiglauca</i>). Ground layer contains shot grass (<i>Paspalidium distans</i>), buffel grass (<i>Cenchrus ciliaris</i>) and golden beard grass (<i>Chrysopogon fallax</i>).
General Site Observations	Trees form the ecologically dominant stratum; retained watercourse vegetation heading south and ultimately joining the Bundarra Creek corridor; a healthy community with a good mix of maturities; old fire scarring evident; low level erosion.
Health	Good

Survey Code	
98	
Location	
Twenty Mile	
Date	
13/03/2018	
Latitude	
-22.03395	
Longitude	
148.47114	
Slope:	
5°	
Aspect:	
W	
General Site Description	
Landform	Plain
Lithology	Cainozoic; sandstone sediments
Soil	Clay / gravels
Height of EDS	20 m
Crown cover	25%
Mapped RE	11.3.1
Observed RE	11.3.1 <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> open forest on alluvial plains (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy of Dawson gum (<i>Eucalyptus cambageana</i>). Sparse sub-canopy of yellowwood (<i>Terminalia oblongata</i>), belah (<i>Casuarina cristata</i>) and brigalow (<i>Acacia harpophylla</i>). Sparse shrub layer of currant bush (<i>Carissa ovata</i>), cocaine bush (<i>Erythroxylum australe</i>), brigalow, yellowwood, shiny-leaved canthium (<i>Psydrax odorata</i> subsp. <i>buxifolia</i>), small-leaved ebony (<i>Diospyros humilis</i>), poison peach (<i>Ehretia membranifolia</i>) and ruby saltbush (<i>Enchylaena tomentosa</i>). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), <i>Aristida</i> sp. and hooky grass (<i>Ancistrachne uncinulata</i>).
General Site Observations	Trees form the ecologically dominant stratum; a patchy community located close to Bundarra Creek with some alluvial elements; the junction of a minor stream; good recruitment and good health; some dieback detected; fire scars absent; low level of exotic species; moderate grazing and camping impacts; soil erosion in cleared areas; significant clearing disturbances nearby.
TEC status	Not a TEC. Brigalow is only a minor part of this community.
Health	Good

Survey Code	
99	
Location	
Deverill	
Date	
13/03/2018	
Latitude	
-22.11503	
Longitude	
148.41290	
Slope:	
1-2°	
Aspect:	
SW	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy light clay
Height of EDS	16 m
Crown cover	45%
Mapped RE	11.5.3
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse to mid-dense canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with occasional vine tree (<i>Ventilago viminalis</i>) and Dawson gum (<i>Eucalyptus cambageana</i>). Sparse sub-canopy dominated by false sandalwood (<i>Eremophila mitchellii</i>), with occasional ironwood (<i>Acacia excelsa</i>). Sparse shrub layer dominated by currant bush (<i>Carissa ovata</i>), with occasional cocaine bush (<i>Erythroxylum australe</i>), vine tree (<i>Ventilago viminalis</i>), brigalow (<i>Acacia harpophylla</i>) and whitewood (<i>Atalaya hemiglauca</i>). Ground layer contains dark wire grass (<i>Aristida calycina</i>), wiregrass (<i>Aristida queenslandicus</i>), windmill grass (<i>Enteropogon ramosus</i>), shotgrass (<i>Paspalidium</i> sp.), cotton panic (<i>Digitaria brownii</i>), scented top grass (<i>Capillipedium spicigerum</i>), <i>Cyperus</i> sp. and golden beard grass (<i>Chrysopogon fallax</i>).
General Site Observations	Trees form the ecologically dominant stratum; an isolated patch approx. 500m x 300m; a healthy community with a good mix of maturities; no fire scarring evident; low level erosion; surrounded by advanced 11.5.3 regrowth linking to other patches in the area.
Health	Good

Survey Code	
100	
Location	
Iffley Station	
Date	
14/03/2018	
Latitude	
-22.18068	
Longitude	
148.43687	
Slope:	
8°	
Aspect:	
SW	
General Site Description	
Landform	Hills
Lithology	Coarse sediments
Soil	Skeletal loams and gravel
Height of EDS	13 m
Crown cover	30%
Mapped RE	11.10.1 / 11.10.8 (60 / 40)
Observed RE	11.10.1d <i>Eucalyptus crebra</i> woodland on coarse-grained sedimentary rocks (BVG 12a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse to mid-dense canopy dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>) with occasional Dallachy's gum (<i>Corymbia dallachyana</i>). Sparse sub-canopy of red ash (<i>Alphitonia excelsa</i>), narrow-leaved ironbark, black wattle (<i>Acacia faucium</i>) and ribbonwood (<i>Euroschinus falcata</i>). Very sparse shrub layer of narrow-leaved ironbark, red ash, black wattle and native pomegranate (<i>Capparis arborea</i>). Ground layer dominated by barbed wire grass (<i>Cymbopogon queenslandicus</i>), dark wiregrass (<i>Aristida calycina</i>), sleepy morning (<i>Waltheria indica</i>) and <i>Scleria mackaviensis</i> .
General Site Observations	Trees form the ecologically dominant stratum; a healthy community with a mix of maturities; no fire scarring evident; low level erosion; very rocky with increasing slope; mostly native groundcover species.
Health	Good

Survey Code	
101	
Location	
Iffley Station	
Date	
14/03/2018	
Latitude	
-22.17754	
Longitude	
148.43684	
Slope:	
5°	
Aspect:	
SW	
General Site Description	
Landform	Hills
Lithology	Coarse sediments
Soil	Skeletal loams and gravel
Height of EDS	14 m
Crown cover	40%
Mapped RE	11.10.8
Observed RE	11.10.3 <i>Acacia catenulata</i> or <i>A. shirleyi</i> open forest on coarse-grained sedimentary rocks, crests and scarps (BVG 24a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse to mid-dense canopy dominated by red lancewood (<i>Acacia shirleyi</i>) with frequent Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and occasional narrow-leaved ironbark (<i>Eucalyptus crebra</i>). Very sparse sub-canopy of red lancewood. Sparse shrub layer of splendid hibiscus (<i>Hibiscus splendens</i>). Ground layer dominated by <i>Cleistochloa subjuncea</i> with <i>Setaria oplismenoides</i> , Sturt's hibiscus (<i>Hibiscus sturtii</i>), hairy goodenia (<i>Goodenia hirsuta</i>), white burr daisy (<i>Calotis dentex</i>), <i>Enneapogon</i> sp. and <i>Aristida</i> sp.
General Site Observations	Trees form the ecologically dominant stratum; a healthy community, but has suffered wind damage from recent storms; recent fire scarring evident; low level erosion; very rocky with increasing slope; mostly native groundcover species.
Health	Good

Survey Code	
102	
Location	
Iffley Station	
Date	
14/03/2018	
Latitude	
-22.17096	
Longitude	
148.43840	
Slope:	
40°	
Aspect:	
S	
General Site Description	
Landform	Hills
Lithology	Coarse sediments
Soil	Skeletal loams and gravel
Height of EDS	4 m
Crown cover	90%
Mapped RE	11.10.8
Observed RE	11.10.8 Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks (BVG 7a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Very sparse emergent layer of rusty fig (<i>Ficus rubiginosa</i>) with a dense, closed low canopy dominated by strychnine tree (<i>Strychnos psilosperma</i>), with occasional native grape (<i>Cissus oblonga</i>), hard aspen (<i>Acronychia laevis</i>), waxvine (<i>Hoya australis</i> subsp. <i>australis</i>), yellow tulipwood (<i>Drypetes deplanchei</i>), grey bird's eye (<i>Alectryon connatus</i>), small-leaved scrub ironbark (<i>Bridelia leichhardtii</i>) and <i>Parsonsia plaesiophylla</i> . Ground layer very sparse, but with clumps of hooky grass (<i>Ancistrachne uncinulata</i>) in clearer areas.
General Site Observations	Shrubs or low trees form the ecologically dominant stratum; a healthy community on a steep escarpment of boulders; no fire scarring evident; low level erosion; very rocky with increasing slope.
Health	Good

Survey Code	
103	
Location	
Iffley Station	
Date	
15/03/2018	
Latitude	
-22.21208	
Longitude	
148.45591	
Slope:	
8°	
Aspect:	
S	
General Site Description	
Landform	Hills – lower slopes
Lithology	Coarse sediments
Soil	Skeletal loams and gravel
Height of EDS	13 m
Crown cover	25%
Mapped RE	11.5.3 / 11.5.9c (50 / 50)
Observed RE	11.10.1d <i>Eucalyptus crebra</i> woodland on coarse-grained sedimentary rocks (BVG 12a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy of narrow-leaved ironbark (<i>Eucalyptus crebra</i>), with a sparse sub-canopy of red ash (<i>Alphitonia excelsa</i>), black wattle (<i>Acacia faucium</i>) and yellow wattle (<i>Acacia flavescens</i>). Very sparse shrub layer of currant bush (<i>Carissa ovata</i>), red ash, yellow berry bush (<i>Denhamia cunninghamii</i>), dysentery bushes (<i>Grewia retusifolia</i> and <i>G. latifolia</i>), native pomegranate (<i>Capparis arborea</i>), Yellow wattle, silver croton (<i>Croton insularis</i>), chain fruit (<i>Alyxia ruscifolia</i>) and cocaine bush (<i>Erythroxylum australe</i>). Ground layer dominated by barbed-wire grass (<i>Cymbopogon queenslandicus</i>), wiregrass (<i>Aristida</i> sp.), golden beard grass (<i>Chrysopogon fallax</i>), red Natal grass (<i>Melinis repens</i>), pastel flower (<i>Pseuderanthemum variabile</i>), bottlewashers (<i>Enneapogon truncatus</i>), buffel grass (<i>Cenchrus ciliaris</i>), mauve clustervine (<i>Jacquemontia paniculata</i>) and shrubby stylo (<i>Stylosanthes scabra</i>).
General Site Observations	Trees form the ecologically dominant stratum; a healthy community with mostly young trees; no fire scarring evident; low level erosion; very rocky with increasing slope; mostly native groundcover species.
Health	Good

Survey Code	
104	
Location	
Iffley Station	
Date	
15/03/2018	
Latitude	
-22.17212	
Longitude	
148.44279	
Slope:	
20°	
Aspect:	
SE	
General Site Description	
Landform	Hills
Lithology	Coarse sediments
Soil	Skeletal loams and gravel
Height of EDS	4 m
Crown cover	60%
Mapped RE	11.10.8
Observed RE	11.10.8 Semi-evergreen vine thicket in sheltered habitats on medium to coarse-grained sedimentary rocks (BVG 7a)
Biodiversity Status	Of Concern
Dominant vegetation observed	Mid-dense low canopy dominated by strychnine tree (<i>Strychnos psilosperma</i>), with frequent red ash (<i>Alphitonia excelsa</i>), burny vine (<i>Trophis scandens</i>), mutton wood (<i>Myrsine variabilis</i>) and Native olive (<i>Notelaea microcarpa</i>), chain fruit (<i>Alyxia ruscifolia</i>), and occasional cherry ballart (<i>Exocarpos latifolius</i>), hard aspen (<i>Acronychia laevis</i>), waxvine (<i>Hoya australis</i> subsp. <i>australis</i>), rock fig (<i>Ficus rubiginosa</i>) and coffee bush (<i>Breynia oblongifolia</i>). Very sparse ground layer with shot grass (<i>Paspalidium</i> sp.) occurring in clearer areas and basket grass (<i>Oplismenus aemulus</i>) in shaded areas.
General Site Observations	Shrubs or low trees form the ecologically dominant stratum; a healthy community on a steep escarpment drainage line of boulders and bedrock; no fire scarring evident; low level erosion; very rocky with increasing slope.
Health	Good

Survey Code	105	
Location	Iffley Station	
Date	15/03/2018	
Latitude	-22.20055	
Longitude	148.45521	
Slope:	3°	
Aspect:	NW	
General Site Description		
Landform	Hills	
Lithology	Coarse sediments	
Soil	Skeletal loams and gravel	
Height of EDS	10 m	
Crown cover	45%	
Mapped RE	11.10.8	
Observed RE	11.10.3 <i>Acacia catenulata</i> or <i>A. shirleyi</i> open forest on coarse-grained sedimentary rocks, crests and scarps (BVG 24a)	
Biodiversity Status	No Concern at Present	
Dominant vegetation observed	Sparse to mid-dense canopy of bendee (<i>Acacia catenulata</i>), with a very sparse sub-canopy and shrub layer of bendee. Ground layer dominated by dark wiregrass (<i>Aristida calycina</i>) and <i>Digitaria ramularis</i> .	
General Site Observations	Trees form the ecologically dominant stratum; a healthy acacia community with low impacts from grazing or clearing; recent fire scarring evident; low level erosion; very rocky with increasing slope; mostly native groundcover species.	
Health	Good	

Survey Code	
106	
Location	
Deverill	
Date	
16/03/2018	
Latitude	
-22.12495	
Longitude	
148.41224	
Slope:	
1°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Laterised sandstone pediment
Soil	Skeletal loams
Height of EDS	7 m
Crown cover	65%
Mapped RE	Non remnant
Observed RE	11.7.2 <i>Acacia</i> spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone (BVG 24a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Mid-dense low canopy of Bendee (<i>Acacia catenulata</i>), with a very sparse sub-canopy and shrub layer of bendee. Ground layer comprised of bottle washers (<i>Enneapogon</i> sp.), wiregrass (<i>Aristida queenslandica</i>), mulga fern (<i>Cheilanthes sieberi</i>) and <i>Digitaria ramularis</i> .
General Site Observations	Trees form the ecologically dominant stratum; a healthy acacia community with medium impacts from grazing and cattle camping; recent fire scarring evident; low level erosion; very rocky with increasing slope; mostly native groundcover species.
Health	Good

Survey Code	
107	
Location	
Deverill	
Date	
16/03/2018	
Latitude	
-22.10560	
Longitude	
148.41565	
Slope:	
1°	
Aspect:	
S	
General Site Description	
Landform	Plain
Lithology	Fine sediments – Cainozoic clays and sands
Soil	Sandy light clay
Height of EDS	6 m
Crown cover	25%
Mapped RE	Non remnant
Observed RE	Non remnant – regrowth RE 11.5.3
Biodiversity Status	
Dominant vegetation observed	Sparse low canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with occasional Dawson gum (<i>E. cambageana</i>). Sparse shrub layer of dead finish (<i>Archidendropsis basaltica</i>), bean tree (<i>Cassia brewsteri</i>), currant bush (<i>Carissa ovata</i>), Mauve clustervine (<i>Jacquemontia paniculata</i>), ironwood (<i>Acacia excelsa</i>) and quinine (<i>Petalostigma pubescens</i>). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), with occasional Indian couch (<i>Bothriochloa pertusa</i>), red Natal grass (<i>Melinis repens</i>), golden beard grass (<i>Chrysopogon fallax</i>), shrubby stylo (<i>Stylosanthes scabra</i>), black spear grass (<i>Heteropogon contortus</i>) and sabi grass (<i>Urochloa mosambicensis</i>).
General Site Observations	Trees form the ecologically dominant stratum; a strongly recovering area of regrowth with some vegetation denser and taller than this location; provides good connectivity value between patches of retained remnants in the area.
Health	Good

Survey Code	
108	
Location	
Deverill	
Date	
16/03/2018	
Latitude	
-22.10862	
Longitude	
148.41859	
Slope:	
1°	
Aspect:	
SW	
General Site Description	
Landform	Plain
Lithology	Fine sediments
Soil	Sandy light clay
Height of EDS	19 m
Crown cover	35%
Mapped RE	11.5.3
Observed RE	11.5.3 <i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and / or remnant surfaces (BVG 17a)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy dominated by poplar box (<i>Eucalyptus populnea</i>), with occasional <i>E. crebra</i> x <i>E. populnea</i> hybrid. Very sparse sub-canopy of poplar box. Sparse shrub layer dominated by currant bush (<i>Carissa ovata</i>), with abundant dysentery bush (<i>Grewia retusifolia</i>), with frequent yellow berry bush (<i>Denhamia cunninghamii</i>), and occasional vine tree (<i>Ventilago viminalis</i>), poison peach (<i>Ehretia membranifolia</i>), quinine (<i>Petalostigma pubescens</i>), bean tree (<i>Cassia brewsteri</i>), poplar box regrowth and whitewood (<i>Atalaya hemiglauc</i>). Ground layer dominated by buffel grass (<i>Cenchrus ciliaris</i>), with occasional dark wire grass (<i>Aristida calycina</i>), Indian couch (<i>Bothriochloa pertusa</i>), cotton panic (<i>Digitaria brownii</i>) and golden beard grass (<i>Chrysopogon fallax</i>).
General Site Observations	Trees form the ecologically dominant stratum; an isolated patch approx. 1500m x 600m; a healthy community with a good mix of maturities; fire scarring evident; low level erosion; surrounded by advanced 11.5.3 regrowth linking to other patches in the area.
Health	Good

Survey Code	
109	
Location	
Iffley Station	
Date	
17/03/2018	
Latitude	
-22.24165	
Longitude	
148.45727	
Slope:	
1°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy red loam
Height of EDS	11 m
Crown cover	15%
Mapped RE	11.5.9c / 11.5.9b (60 / 40)
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Very sparse canopy of narrow-leaved ironbark (<i>Eucalyptus crebra</i>), Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and Dallachy's gum (<i>C. dallachiana</i>). Sparse sub-canopy of prickly pine (<i>Bursaria incana</i>), quinine (<i>Petalostigma pubescens</i>), black wattle (<i>Acacia faucium</i>) and Clarkson's bloodwood. Very sparse shrub layer of quinine, currant bush (<i>Carissa ovata</i>), dysentery bush (<i>Grewia latifolia</i>), prickly pine and cocaine bush (<i>Erythroxylum australe</i>). Ground layer of Red Natal grass (<i>Melinis repens</i>), golden beard grass (<i>Chrysopogon fallax</i>), sleepy morning (<i>Waltheria indica</i>), velvet hibiscus (<i>Melhania oblongifolia</i>), woolly glycine (<i>Glycine tomentella</i>), shrubby stylo (<i>Stylosanthes scabra</i>) and dark wiregrass (<i>Aristida calycina</i>).
General Site Observations	Trees form the ecologically dominant stratum; moderate recruitment; fire scars obvious, with a likely history of regular burning; a mix of introduced and native grasses; no erosion; moderate grazing impacts; likely logged.
Health	Average

Survey Code	110	
Location	Iffley Station	
Date	17/03/2018	
Latitude	-22.25535	
Longitude	148.45867	
Slope:	0°	
Aspect:	NA	
General Site Description		
Landform	Closed depression	
Lithology	Weathered sediments	
Soil	Light clay with weathered ironstone nodules	
Height of EDS	10 m	
Crown cover	45%	
Mapped RE	11.3.27b	
Observed RE	11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains and remnant surfaces (BVG 34b)	
Biodiversity Status	Endangered	
Dominant vegetation observed	Sparse canopy of Queensland blue gum (<i>Eucalyptus tereticornis</i>). No sub-canopy or shrub layer. Ground layer contains <i>Dinebra decipiens</i> , Paddy's Lucerne (<i>Sida rhombifolia</i>), willow primrose (<i>Ludwigia octovalvis</i>), flannel weed (<i>Sida cordifolia</i>) and green amaranth (<i>Amaranthus viridis</i>).	
General Site Observations	Trees form the ecologically dominant stratum; a disturbed community that is largely regrowth; this is a modified wetland with a single cell dam in the centre; stock impacts are high; good recruitment; minor erosion; no fire scarring; weedy.	
Health	Poor	

Survey Code	
111	
Location	
Iffley Station	
Date	
17/03/2018	
Latitude	
-22.25997	
Longitude	
148.46652	
Slope:	
2-3°	
Aspect:	
SE	
General Site Description	
Landform	Plain
Lithology	Old weathered sediments
Soil	Sandy red loam
Height of EDS	15 m
Crown cover	30%
Mapped RE	11.3.2 / 11.3.7 / 11.3.1 / 11.3.1b (65 / 20 / 10 / 5)
Observed RE	11.5.9 <i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and / or remnant surfaces (BVG 18b)
Biodiversity Status	No Concern at Present
Dominant vegetation observed	Sparse canopy co-dominated by narrow-leaved ironbark (<i>Eucalyptus crebra</i>), Clarkson's bloodwood (<i>Corymbia clarksoniana</i>) and carbeen (<i>C. tessellaris</i>). Very sparse sub-canopy of Clarkson's bloodwood and carbeen. Sparse shrub layer of shiny-leaved canthium (<i>Psydrax odorata</i> subsp. <i>buxifolia</i>), Stiff denhamia (<i>Denhamia oleaster</i>), Ironwood (<i>Acacia excelsa</i>), Bean tree (<i>Cassia brewsteri</i>), <i>Corymbia</i> sp. and cocaine (<i>Erythroxylum australe</i>). Ground layer contains red Natal grass (<i>Melinis repens</i>), golden beard grass (<i>Chrysopogon fallax</i>), pink tongues (<i>Rostellularia adscendens</i>), velvet hibiscus (<i>Melhania oblongifolia</i>), woolly glycine (<i>Glycine tomentella</i>), shrubby stylo (<i>Stylosanthes scabra</i>), tropical speedwell (<i>Evolvulus alsinoides</i>), paddy's Lucerne (<i>Sida rhombifolia</i>), kangaroo grass (<i>Themeda triandra</i>), <i>Aristida</i> sp. and dark wiregrass (<i>Aristida calycina</i>).
General Site Observations	Trees form the ecologically dominant stratum; good recruitment; no obvious fire scars, but a likely history of regular burning; a mix of introduced and native grasses; no erosion detected; moderate grazing impacts; evidence of logging.
Health	Good

Survey Code	
112	
Location	
Iffley Station	
Date	
17/03/2018	
Latitude	
-22.26971	
Longitude	
148.45744	
Slope:	
1-2°	
Aspect:	
S	
General Site Description	
Landform	Plain
Lithology	Cainozoic; sandstone sediments
Soil	Light to medium clay – deep gilgai
Height of EDS	12 m
Crown cover	30%
Mapped RE	11.3.2 / 11.3.7 / 11.3.1 / 11.3.1b (65 / 20 / 10 / 5)
Observed RE	11.3.1b Open forest dominated by <i>Acacia harpophylla</i> and / or <i>Casuarina cristata</i> (particularly in southern parts), generally with scattered emergent <i>Eucalyptus</i> spp. such as <i>E. coolabah</i> , <i>E. largiflorens</i> , <i>E. populnea</i> , <i>E. orgadophila</i> , and <i>E. woollsiana</i> (BVG 25a)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy dominated by coolabah (<i>Eucalyptus coolabah</i>), with abundant brigalow (<i>Acacia harpophylla</i>), occasional belah (<i>Casuarina cristata</i>), Dallachy's gum (<i>Corymbia dallachiana</i>), yellowwood (<i>Terminalia oblongata</i>) and Poplar box (<i>Eucalyptus populnea</i>). Sparse sub-canopy of white bauhinia (<i>Lysiphyllum hookeri</i>), ironwood (<i>Acacia excelsa</i>), whitewood (<i>Atalaya hemiglauc</i>) and yellowwood. Very sparse shrub layer of currant bush (<i>Carissa ovata</i>), whitewood, white bauhinia, poison peach (<i>Ehretia membranifolia</i>) and bean tree (<i>Cassia brewsteri</i>). Ground layer contains buffel grass (<i>Cenchrus ciliaris</i>), sabi grass (<i>Urochloa mosambicensis</i>), malvastrum (<i>Malvastrum americanum</i>), parthenium (<i>Parthenium hysterophorus</i>) and green panic (<i>Megathyrsus maximus</i>).
General Site Observations	Trees form the ecologically dominant stratum; a patchy community located on a back stream flood channel of the Isaac River; moderate recruitment and good health; some dieback detected; fire scars absent; high level of exotic groundcover species; low erosion; moderate stock impacts; cleared around.
TEC status	Not a TEC. Brigalow is only a minor part of this community and greater than 50% exotic groundcover species.
Health	Average

Survey Code	113
Location	Iffley Station
Date	17/03/2018
Latitude	-22.27214
Longitude	148.45605
Slope:	1°
Aspect:	SE
	
General Site Description	
Landform	Deposited low rises – old floodplain
Lithology	Alluvial sands (origin undetermined)
Soil	Sandy loam
Height of EDS	Median height 17 m
Crown cover	20%
Mapped RE	11.3.2 / 11.3.7 / 11.3.1 / 11.3.1b (65 / 20 / 10 / 5)
Observed RE	11.3.7 - <i>Corymbia</i> spp. woodland on alluvial plains (BVG 9e)
Biodiversity Status	Of Concern
Dominant vegetation observed	Grassy open woodland dominated by Dallachy's gum (<i>Corymbia dallachyana</i>) and Poplar box (<i>Eucalyptus populnea</i>) with occasional Clarkson's bloodwood (<i>C. clarksoniana</i>), Carbeen (<i>C. tessellaris</i>) and Sally wattle (<i>Acacia salicina</i>). No obvious sub-canopy. Very sparse shrub layer of currant bush (<i>Carissa ovata</i>), Sally wattle (O), bean tree (<i>Cassia brewsteri</i>) red ash (<i>Alphitonia excelsa</i>) and white bauhinia (<i>Lysiphyllum hookeri</i>). Groundcover is an exotic mix of buffel grass (<i>Cenchrus ciliaris</i>), green panic (<i>Megathyrsus maximus</i>), parthenium (<i>Parthenium hysterophorus</i>), liquorice weed (<i>Scoparia dulcis</i>), vernonia (<i>Cyanthillium cinereum</i>) and sabi grass (<i>Urochloa mosambicensis</i>).
General Site Observations	Trees form the ecologically dominant stratum; a patchy young community with few old trees; isolated patch, but linked by regrowth vegetation to the Isaac River; moderate recruitment; no erosion detected; fire scars absent.
Health	Poor

Survey Code	114
Location	Twenty Mile
Date	22/05/2018
Latitude	-22.05234
Longitude	148.53057
Slope:	0°
Aspect:	NA
General Site Description	
Landform	Closed depression
Lithology	Weathered sediments
Soil	Light clay with weathered ironstone nodules
Height of EDS	9 m
Crown cover	40%
Mapped RE	Non-remnant
Observed RE	11.5.17 <i>Eucalyptus tereticornis</i> woodland in depressions on Cainozoic sand plains and remnant surfaces (BVG 34b)
Biodiversity Status	Endangered
Dominant vegetation observed	Sparse canopy dominated by tea tree (<i>Melaleuca viridiflora</i>) with occasional Queensland blue gum (<i>Eucalyptus tereticornis</i>) and Clarkson's bloodwood (<i>Corymbia clarksoniana</i>). Sub-canopy and shrub layer both very sparse and comprised of juvenile and sapling tea tree. Ground layer dominated by <i>Dinebra decipiens</i> with occasional sleepy morning (<i>Waltheria indica</i>), purple lovegrass (<i>Eragrostis lacunaria</i>), spike rush (<i>Eleocharis blakeana</i>) and creeping phyllanthus (<i>Phyllanthus virgata</i>).
General Site Observations	Trees form the ecologically dominant stratum; a shallow wetland which appears to have suffered dieback, possibly from an old burn; numerous eucalypt stags; stock impacts are low; good recruitment; no erosion; no obvious fire scarring but standing dead trees may have been burnt or have died during drought; low level of exotic species.
Health	Good



Appendix D: Terrestrial habitat quality assessments of the Study area

Site: 3.1BC01 – Endangered	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1/11.3.1b (65/20/10/5)	Observed RE: 11.3.1b
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.26894; 148.45682
50 m (centre point):	-22.26907; 148.45728
100 m (end point):	-22.26918; 148.45772
Elevation (mAHD):	169
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Coolabah on deep gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	5
Total large trees/ha:	10
Tree canopy (EDL) height (m):	19
Sub-canopy height (m):	12
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Eucalyptus coolabah</i> , <i>E. populnea</i> , <i>Lysiphyllum hookeri</i> , <i>Alectryon oleifolius</i> , <i>Acacia excelsa</i> , <i>Corymbia dallachiana</i>	7
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Ehretia membranifolia</i> , <i>Alectryon diversifolius</i> , <i>L. hookeri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Abutilon oxycarpum</i>	7
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Cynodon dactylon</i> , <i>Paspalidium</i> sp., <i>Bothriochloa bladhii</i> , <i>Microlaena stipoides</i> , <i>Eragrostis</i> sp., <i>Eragrostis elongata</i>	7
Forb spp. richness: <i>Cyperus</i> sp., <i>Fimbristylis dichotoma</i> , <i>Alternanthera denticulata</i> , <i>Cyperus gracilis</i> , <i>Sida</i> sp., <i>Basilicum polystachion</i> , <i>Polygonum</i> sp., <i>Pterocaulon redolens</i> , <i>Heliotropium ovalifolium</i>	9
Other spp.: <i>Eustrephus latifolius</i>	1
Weed spp. and cover as % of area: <i>Malvastrum americanum</i> , <i>Harrisia martinii</i> , <i>Urochloa mosambicensis</i> , <i>Heliotropium indicum</i> , <i>Erigeron bonariensis</i> , <i>Megathyrsus maximus</i> , <i>Bidens pilosa</i> , <i>Abutilon guineense</i> , <i>Lantana camara</i> , <i>Parthenium hysterophorus</i> , <i>Stylosanthes scabra</i> , <i>Amaranthus</i> sp.	50

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	58.5
Shrub canopy cover (100 m canopy intercept)	% cover	4.3
Native perennial grass cover (1 m x 1 m plots)	% cover	2
Litter cover (1 m x 1 m plots)	% cover	48
Coarse woody debris (from 50 m x 20 m plot)	m / ha	255
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	5
Grasses	no. species	4
Forbs	no. species	8
Large eucalypts	no. / ha	na
Large non-eucalypts	no. / ha	28
Tree canopy median height	m	14
Tree canopy cover	%	29
Native shrub cover	%	8
Native perennial grass cover	%	8
Organic litter cover	%	34
Coarse woody debris	m / ha	1752

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	8
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	BioCondition: Site + landscape	106	59
Total	80	51	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	59

Habitat quality score (measured):

6

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.2BC01 – Of Concern	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (65/30/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04382; 148.47989
50 m (centre point):	-22.04380; 148.47940
100 m (end point):	Not recorded
Elevation (mAHD):	208
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland with shrubby understory on alluvial clay loam
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	14
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. crebra</i> , <i>Owenia acidula</i> , <i>Eremophila mitchellii</i> , <i>Alectryon oleifolius</i> , <i>Flindersia australis</i> , <i>F. dissosperma</i> , <i>Acacia excelsa</i> , <i>E. populnea</i> x <i>E. crebra</i> .	8
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Petalostigma pubescens</i> , <i>Geijera parviflora</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Capparis loranthifolia</i> , <i>Acacia excelsa</i> , <i>Alectryon oleifolius</i> , <i>Denhamia cunninghamii</i> , <i>Acacia oswaldii</i> , <i>Eremophila debile</i>	13
Grass spp. richness: <i>Eragrostis sororia</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>Enneapogon</i> sp., <i>Themeda triandra</i> , <i>Chrysopogon fallax</i> , <i>Aristida calycina</i> , <i>Aristida</i> sp., <i>Oplismenus</i> sp.	9
Forb spp. richness: <i>Pterocaulon redolens</i> , <i>Waltheria indica</i> , <i>Calotis cuneifolia</i> , <i>Hibiscus sturtii</i> , <i>Phyllanthus virgatus</i> , <i>Achyranthes aspera</i> , <i>Cyperus gracilis</i> , <i>Desmodium macrocarpum</i>	8
Other spp.: <i>Lomandra multiflora</i> , <i>Parsonsia lanceolata</i> , <i>Jacquemontia paniculata</i> , <i>Eustrephus latifolius</i>	5
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i>	10

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	45.8
Shrub canopy cover (100 m canopy intercept)	% cover	14
Native perennial grass cover (1 m x 1 m plots)	% cover	10
Litter cover (1 m x 1 m plots)	% cover	38
Coarse woody debris (from 50 m x 20 m plot)	m / ha	370
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	2
Shrubs	no. species	2
Grasses	no. species	9
Forbs	no. species	17
Large eucalypts	no. / ha	22
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	40
Native shrub cover	%	2
Native perennial grass cover	%	35
Organic litter cover	%	30
Coarse woody debris	m / ha	307

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + landscape	106	73
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	73

Habitat quality score:

7

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.2BC02 – Of Concern	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (65/30/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06423; 148.46820
50 m (centre point):	-22.06446; 148.46785
100 m (end point):	-22.06468; 148.46751
Elevation (mAHD):	197
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland on alluvial clay loam
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	18
Tree canopy (EDL) height (m):	18.5
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>C. tessellaris</i> , <i>Vachellia bidwillii</i> , <i>Alphitonia excelsa</i> , <i>Atalaya hemiglauc</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>G. retusifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Petalostigma pubescens</i> , <i>Sida hackettiana</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Atalaya hemiglauc</i> , <i>Acacia excelsa</i> , <i>Abutilon oxycarpum</i> , <i>Eremophila debile</i>	12
Grass spp. richness: <i>Eragrostis sororia</i> , <i>Enteropogon ramosus</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>B. decipiens</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Chrysopogon fallax</i> , <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>Enneapogon avenaceus</i> , <i>Enneapogon sp.</i> , <i>Alloteropsis semialata</i> , <i>Eulalia aurea</i>	14
Forb spp. richness: <i>Pterocaulon redolens</i> , <i>Waltheria indica</i> , <i>Apowollastonia spilanthisoides</i> , <i>Commelina diffusa</i> , <i>Hibiscus sp.</i> , <i>Zornia sp.</i> , <i>Melhania oblongifolia</i> , <i>Phyllanthus virgatus</i> , <i>Achyranthes aspera</i> , <i>Rostellularia adscendens</i> , <i>Calotis cuneifolia</i> , <i>Cyanthillium cinereum</i> , <i>Glycine tomentella</i> , <i>Glycine sp.</i> , <i>Alternanthera denticulata</i> , <i>Cyperus gracilis</i> , <i>Crinum flaccidum</i> , <i>Cyperus sp.</i>	18
Other spp.: <i>Lomandra longifolia</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Gomphrena celosioides</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	48.1			
Shrub canopy cover (100 m canopy intercept)	% cover	9.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	22			
Litter cover (1 m x 1 m plots)	% cover	61			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	370			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	2			
Shrubs	no. species	2			
Grasses	no. species	9			
Forbs	no. species	17			
Large eucalypts	no. / ha	22			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	40			
Native shrub cover	%	2			
Native perennial grass cover	%	35			
Organic litter cover	%	30			
Coarse woody debris	m / ha	307			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	3	Site + landscape	106	82
Total	80	71	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	82

Habitat quality score:

8

Site photos



Start point, facing SW



Mid-point, facing north



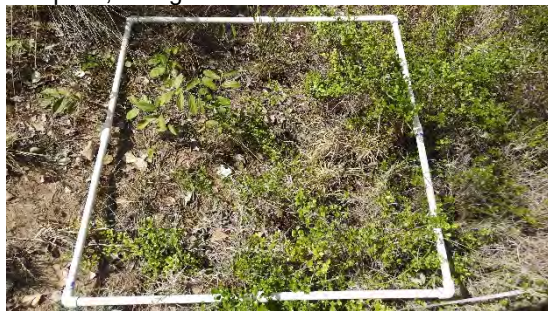
Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC01 – Of Concern vegetation	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.27b	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05169; 148.48329
50 m (centre point):	-22.05176; 148.48381
100 m (end point):	-22.05186; 148.48427
Elevation (mAHD):	208
General Site Description	
Landform	Closed depression
Soil	Light clay and alluvial sands
Dominant vegetation observed	Forest red gum on sedgy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	14
Tree canopy (EDL) height (m):	23
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness:	1
<i>Eucalyptus tereticornis</i>	
50 x 10 m area	
Shrub spp. richness: <i>Ludwigia octovalvis</i>	1
Grass spp. richness: <i>Brachyachne convergens</i> , <i>Diplachne fusca</i> var. <i>fusca</i>	2
Forb spp. richness: <i>Eleocharis</i> sp., <i>Eleocharis plana</i> , <i>Marsilea</i> sp., <i>Centipeda minima</i> , <i>Cucumis argenteus</i>	5
Other spp.:	
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Passiflora foetida</i> , <i>Heliotropium indicum</i>	<5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	35.7			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	1.4			
Litter cover (1 m x 1 m plots)	% cover	48.4			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	530			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	1			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	6			
Large eucalypts	no. / ha	46			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	16			
Tree canopy cover	%	40			
Native shrub cover	%	NA			
Native perennial grass cover	%	3			
Organic litter cover	%	15			
Coarse woody debris	m / ha	530			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	3	Site + landscape	106	64
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	64

Habitat quality score:

6

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC02 – Of Concern vegetation	Assessor – Bruce McLennan
Property: Deverill	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.18831; 148.41695
50 m (centre point):	-22.18803; 148.41656
100 m (end point):	-22.18776; 148.41617
Elevation (mAHD):	177
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Coolabah woodland on ephemeral sedge swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	6
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	12
Tree canopy (EDL) height (m):	17
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus coolabah</i> , <i>Acacia harpophylla</i> , <i>Acacia salicina</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum hookeri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i>	1
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Dinebra decipiens</i> , <i>Diplachne fusca</i> var. <i>fusca</i>	3
Forb spp. richness: <i>Cyperus exaltatus</i> , <i>Balsamicum polystachion</i> , <i>Alternanthera denticulata</i> , <i>Cyperus</i> sp., <i>Rorippa eustylis</i> , <i>Ottelia</i> sp., <i>Ammannia multiflora</i> , <i>Cyperus difformis</i>	8
Other spp.:	0
Weed spp. and cover as % of area: <i>Echinochloa colona</i>	<5%

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	41.6
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	4
Litter cover (1 m x 1 m plots)	% cover	6
Coarse woody debris (from 50 m x 20 m plot)	m / ha	140
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	1
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	6
Large eucalypts	no. / ha	46
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	16
Tree canopy cover	%	40
Native shrub cover	%	NA
Native perennial grass cover	%	3
Organic litter cover	%	15
Coarse woody debris	m / ha	530

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	3	Site + landscape	106	69
Total	80	65	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	69

Habitat quality score:

7

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC03 – Of Concern vegetation	Assessor – Bruce McLennan
Property: Iffley	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.20904; 148.42899
50 m (centre point):	-22.20945; 148.42902
100 m (end point):	Not recorded
Elevation (mAHD):	174
General Site Description	
Landform	Closed depression
Soil	Light clay and alluvial sands
Dominant vegetation observed	Forest red gum and Coolabah on sedgy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	12
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	24
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Eucalyptus coolabah</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Ludwigia</i> sp.	1
Grass spp. richness: <i>Brachyachne convergens</i> , <i>Leersia hexandra</i>	2
Forb spp. richness: <i>Eleocharis sphacelata</i> , <i>Eleocharis plana</i> , <i>Marsilea drummondii</i> , <i>Cyperus exaltata</i> , <i>Balsamicum polystachion</i> , <i>Sesbania</i> sp., <i>Cyperus pygmaeus</i> , <i>Cyperus difformis</i> , <i>Glinus lotoides</i> , <i>Cucumis</i> sp.	10
Other spp.:	0
Weed spp. and cover as % of area: <i>Parkinsonia aculeata</i>	<5

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	33.3
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	14
Coarse woody debris (from 50 m x 20 m plot)	m / ha	462
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	1
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	6
Large eucalypts	no. / ha	46
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	16
Tree canopy cover	%	40
Native shrub cover	%	NA
Native perennial grass cover	%	3
Organic litter cover	%	15
Coarse woody debris	m / ha	530

Site assessment scoring sheet

Scoring sheet

Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	7
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	0	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	5	Site + landscape	106	75
Total	80	68	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	75

Habitat quality score:

7

Site photos



Start point, facing S



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.8BC01 – Endangered vegetation	Assessor – Bruce McLennan
Property: Iffley	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.8 advanced regrowth to mature
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.19998; 148.43385
50 m (centre point):	-22.19967; 148.43352
100 m (end point):	-22.19946; 148.43333
Elevation (mAHD):	189
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Mature Dawson gum regrowth on clay plain
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	38
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	22
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>E. cambageana</i> , <i>Acacia harpophylla</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Carissa ovata</i> , <i>Geijera salicifolia</i> , <i>Citrus glauca</i> , <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Acacia oswaldii</i> , <i>Enchylaena tomentosa</i> , <i>Alectryon diversifolius</i> , <i>Abutilon oxycarpum</i>	11
Grass spp. richness: <i>Sporobolus caroli</i> , <i>S. actinocladius</i> , <i>Aristida jerichoensis</i> , <i>A. queenslandicus</i> , <i>Aristida sp.</i> , <i>Enteropogon acicularis</i> , <i>Paspalidium caespitosum</i> , <i>P. jubiflorum</i>	8
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Boerhavia dominii</i> , <i>Unident</i> , <i>Abutilon fraseri</i> , <i>Salsola australis</i> , <i>Melhanina oblongifolia</i>	6
Other spp.: <i>Clematicissus opaca</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Harrisia martinii</i> , <i>Opuntia tomentosa</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	36.4			
Shrub canopy cover (100 m canopy intercept)	% cover	4.0			
Native perennial grass cover (1 m x 1 m plots)	% cover	1.8			
Litter cover (1 m x 1 m plots)	% cover	54.2			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	15			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	10			
Grasses	no. species	9			
Forbs	no. species	7			
Large eucalypts	no. / ha	28			
Large non-eucalypts	no. / ha	42			
Tree canopy median height	m	17			
Tree canopy cover	%	40			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	37			
Coarse woody debris	m / ha	813			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	0	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	0	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + landscape	106	50
Total	80	46	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	50

Habitat quality score:

5

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.8BC02 – Endangered vegetation	Assessor – Bruce McLennan
Property: Iffley	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.8 advanced regrowth to mature
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.20047; 148.43251
50 m (centre point):	-22.20007; 148.43231
100 m (end point):	-22.19965; 148.43217
Elevation (mAHD):	183
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Mature Dawson gum regrowth on clay plain
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	38
Number of large Eucalypt trees:	1
Non-Eucalypt large tree DBH (cm): (from benchmark document)	22
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	2
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus cambageana</i> , <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>E. populnea</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Acacia harpophylla</i> , <i>Carissa ovata</i> , <i>Citrus glauca</i> , <i>Capparis lasiantha</i> , <i>Grewia latifolia</i> , <i>Acacia excelsa</i> , <i>Enchylaena tomentosa</i> , <i>Alectryon diversifolius</i> , <i>Psydrax odorata</i> subsp. <i>buxifolia</i> , <i>Owenia acidula</i> , <i>Erythroxylum australe</i> , <i>Ehretia membranifolia</i> , <i>Acacia salicina</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i>	14
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Aristida queenslandicus</i> , <i>Aristida</i> sp., <i>Enteropogon acicularis</i> , <i>E. ramosus</i>	5
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Phyllanthus virgatus</i> , <i>Sida</i> sp., <i>Alternanthera nana</i> , <i>Glycine</i> sp., <i>Melhania oblongifolia</i>	6
Other spp.: <i>Clematicissus opaca</i> , <i>Parsonsia lanceolata</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Harrisia martinii</i> , <i>Sida spinescens</i>	20

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	34.2
Shrub canopy cover (100 m canopy intercept)	% cover	5.6
Native perennial grass cover (1 m x 1 m plots)	% cover	12
Litter cover (1 m x 1 m plots)	% cover	31
Coarse woody debris (from 50 m x 20 m plot)	m / ha	55
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	10
Grasses	no. species	9
Forbs	no. species	7
Large eucalypts	no. / ha	28
Large non-eucalypts	no. / ha	42
Tree canopy median height	m	17
Tree canopy cover	%	40
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	37
Coarse woody debris	m / ha	813

Site assessment scoring sheet

Scoring sheet

Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + landscape	106	61
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	61

Habitat quality score:

6

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC01 – Endangered	Assessor – Bruce McLennan
Property: Iffley	Date: 03/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.4.9	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17759; 148.5372
50 m (centre point):	-22.17736; 148.53679
100 m (end point):	-22.1771; 148.53641
Elevation (mAHD):	180
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Advanced Brigalow and Yellowwood regrowth on shallow gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	Not recorded
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Acacia argyrodendron</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>A. harpophylla</i> , <i>Atalaya hemiglauca</i> , <i>Maireana microphylla</i> , <i>Myoporum acuminatum</i> , <i>Eremophila debile</i> , <i>Abutilon oxycarpum</i>	6
Grass spp. richness: <i>Sporobolus caroli</i> , <i>S. actinocladus</i> , <i>Paspalidium caespitosum</i> , <i>Bothriochloa bladhii</i> , <i>Diplachne fusca</i> var. <i>fusca</i> , <i>Enteropogon acicularis</i> , <i>Astrebla lappacea</i> , <i>Eragrostis lacunaria</i> , <i>Eragrostis parviflora</i> , <i>Sporobolus creber</i>	10
Forb spp. richness: <i>Cyperus</i> sp., <i>Fimbristylis dichotoma</i> , <i>Alternanthera denticulata</i> , <i>Abutilon</i> sp., <i>Sida</i> sp.	5
Other spp.: <i>Marsdenia australis</i> , <i>Clematicissus opaca</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	52.2			
Shrub canopy cover (100 m canopy intercept)	% cover	2.7			
Native perennial grass cover (1 m x 1 m plots)	% cover	11			
Litter cover (1 m x 1 m plots)	% cover	41			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	10			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	7
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	3	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	0	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	5	Site + landscape	106	55
Total	80	48	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	55

Habitat quality score :

5

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC02 – Endangered	Assessor – Bruce McLennan
Property: Iffley	Date: 03/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.4.9/11.5.3	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17306; 148.53587
50 m (centre point):	-22.17325; 148.53633
100 m (end point):	-22.17344; 148.53674
Elevation (mAHD):	183
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Advanced Brigalow regrowth on shallow gilgai cracking clays
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Eucalyptus populnea</i> , <i>Acacia argyrodendron</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Acacia harpophylla</i> , <i>Carissa ovata</i> , <i>Eremophila mitchellii</i> , <i>Atalaya hemiglauca</i> , <i>Abutilon oxycarpum</i>	5
Grass spp. richness: <i>Aristida queenslandicus</i> , <i>Sporobolus caroli</i> , <i>Bothriochloa bladhii</i> , <i>Paspalidium caespitosum</i> , <i>Cymbopogon queenslandicus</i> , <i>Enteropogon ramosus</i> , <i>Sporobolus actinocladus</i>	7
Forb spp. richness: <i>Nyssanthus erecta</i> , <i>Cyperus gracilis</i>	2
Other spp.: <i>Clematicissus opaca</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Malvastrum americanum</i>	<5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	43.9			
Shrub canopy cover (100 m canopy intercept)	% cover	16.5			
Native perennial grass cover (1 m x 1 m plots)	% cover	6			
Litter cover (1 m x 1 m plots)	% cover	58			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	7
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	0	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	5	Site + landscape	106	53
Total	80	46	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	53

Habitat quality score (measured):

5

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC03 – Endangered	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 05/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.4.9/11.4.8 (70/30)	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04496; 148.46529
50 m (centre point):	-22.04538; 148.46553
100 m (end point):	-22.04577; 148.46568
Elevation (mAHD):	215
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Belah with dense Yellowwood understory on clay plain
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	13
Total large trees/ha:	26
Tree canopy (EDL) height (m):	19
Sub-canopy height (m):	11
Emergent height (m):	NA
Total tree species richness: <i>Casuarina cristata</i> , <i>Terminalia oblongata</i> , <i>Eucalyptus cambageana</i> , <i>Acacia harpophylla</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Geijera parviflora</i> , <i>Alectryon diversifolius</i> , <i>Carissa ovata</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Enchylaena tomentosa</i> , <i>T. oblongata</i> , <i>Diospyros humilis</i> , <i>C. cristata</i> , <i>Alectryon oleifolius</i> , <i>Flindersia dissosperma</i> , <i>Citrus glauca</i> , <i>Cassia brewsteri</i> , <i>Ehretia membranifolia</i> , <i>Psyrax odorata</i> subsp. <i>buxifolia</i> , <i>Triflorensia ixoroides</i> , <i>Erythroxylum australe</i> , <i>Acacia</i> <i>oswaldii</i> , <i>A. harpophylla</i> , <i>Abutilon oxycarpum</i>	20
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium</i> sp., <i>Ancistrachne</i> <i>uncinulata</i> , <i>Enteropogon ramosus</i> , <i>Cymbopogon queenslandicus</i> , <i>Dichanthium sericeum</i> , <i>Sporobolus actinocladus</i> , <i>Eragrostis</i> sp.	9
Forb spp. richness: <i>Cyanthillium cinereus</i> , <i>Nyssanthus erecta</i>	2
Other spp.: <i>Marsdenia</i> sp., <i>Clematicissus opaca</i> , <i>Jacquemontia paniculata</i>	3
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i>	10

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	48.6			
Shrub canopy cover (100 m canopy intercept)	% cover	47.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	3			
Litter cover (1 m x 1 m plots)	% cover	55			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	610			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	13
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	3	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + landscape	106	75
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	75

Habitat quality score:

7

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC04 – Endangered	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 05/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.4.9/11.4.8 (70/30)	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04486; 148.46210
50 m (centre point):	-22.04445; 148.46205
100 m (end point):	-22.04401; 148.46205
Elevation (mAHD):	218
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Belah with Yellowwood understory on clay plain
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	15
Total large trees/ha:	30
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness: <i>Casuarina cristata</i> , <i>Terminalia oblongata</i> , <i>Eucalyptus cambageana</i> , <i>Geijera parviflora</i> , <i>Flindersia dissosperma</i> , <i>Eremophila mitchellii</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Geijera parviflora</i> , <i>Alectryon diversifolius</i> , <i>Carissa ovata</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Enchylaena tomentosa</i> , <i>T. oblongata</i> , <i>E.</i> <i>mitchellii</i> , <i>Diospyros humilis</i> , <i>Grewia latifolia</i> , <i>C. cristata</i> , <i>Alectryon oleifolius</i> , <i>Pittosporum spinescens</i> , <i>Citrus glauca</i> , <i>Abutilon oxycarpum</i>	15
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium sp.</i> , <i>Ancistrachne</i> <i>uncinulata</i> , <i>Enteropogon ramosus</i> , <i>Aristida queenslandicus</i> , <i>Eragrostis</i> <i>sororia</i> , <i>Enneapogon sp.</i> , <i>Panicum effusum</i>	9
Forb spp. richness: <i>Cyperus gracilis</i>	1
Other spp.: <i>Cymbidium canaliculatum</i> , <i>Parsonsia sp.</i> , <i>Secamone ellipticum</i> , <i>Jacquemontia paniculata</i>	4
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Opuntia tomentosa</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	43.8			
Shrub canopy cover (100 m canopy intercept)	% cover	47.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	12.			
Litter cover (1 m x 1 m plots)	% cover	37			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	345			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	13
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	3	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	5	Site + landscape	106	79
Total	80	66	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	79

Habitat quality score:

7

Site photos



Start point, facing N



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC05 – Endangered	Assessor – Bruce McLennan
Property: Deverill	Date: 20/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14432; 148.37566
50 m (centre point):	-22.14397; 148.37595
100 m (end point):	-22.14364; 148.37628
Elevation (mAHD):	187
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Dawson gum on shallow gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	4
Total large trees/ha:	8
Tree canopy (EDL) height (m):	10
Sub-canopy height (m):	5
Emergent height (m):	15
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum carronii</i> , <i>L. hookeri</i> , <i>Eucalyptus cambageana</i> , <i>E. populnea</i> , <i>Eremophila mitchellii</i>	7
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Geijera parviflora</i> , <i>Atalaya hemiglauca</i> , <i>Alectryon oleifolius</i> , <i>A. diversifolius</i> , <i>Carissa ovata</i> , <i>Ehretia membranifolia</i> , <i>L. hookeri</i> , <i>L. carronii</i> , <i>Apophyllum anomalum</i> , <i>Denhamia cunninghamii</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Enchylaena tomentosa</i> , <i>Maireana microphylla</i> , <i>Abutilon oxycarpum</i>	15
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium</i> sp., <i>Ancistrachne uncinulata</i> , <i>Enteropogon acicularis</i> , <i>Aristida queenslandicus</i>	6
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Cheilanthes sieberi</i> , <i>Nyssanthus erecta</i> , <i>Einadia nutans</i> , <i>Salsola australis</i> , <i>Boerhavia</i> sp.	6
Other spp.: <i>Tinospora smilacina</i> , <i>Parsonsia</i> sp., <i>Clematicissus opaca</i> , <i>Marsdenia australis</i>	4
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Urochloa mosambicensis</i> , <i>Opuntia tomentosa</i> , <i>Parthenium hysterophorus</i> , <i>Portulaca oleracea</i>	40

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	12.7			
Shrub canopy cover (100 m canopy intercept)	% cover	15.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	4			
Litter cover (1 m x 1 m plots)	% cover	26			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	425			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	2
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	3	Total	50	0
Litter cover	5	5	Site + landscape	106	56
Total	80	54	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	56

Habitat quality score (measured):

5

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC06 – endangered	Assessor – Bruce McLennan
Property: Deverill	Date: 20/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14224; 148.37689
50 m (centre point):	-22.14192; 148.37656
100 m (end point):	-22.14161; 148.37622
Elevation (mAHD):	190
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Yellowwood on medium gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	2
Total large trees/ha:	4
Tree canopy (EDL) height (m):	10
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum hookeri</i> , <i>Atalaya hemiglauc</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Geijera parviflora</i> , <i>Atalaya hemiglauc</i> , <i>Alectryon diversifolius</i> , <i>Carissa ovata</i> , <i>Lysiphyllum carronii</i> , <i>Apophyllum anomalum</i> , <i>Pittosporum spinescens</i> , <i>Eremophila mitchellii</i> , <i>E. deserti</i> , <i>Solanum elachophyllum</i> , <i>Enchylaena tomentosa</i> , <i>Abutilon oxycarpum</i>	13
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Diplachne fusca</i> var. <i>fusca</i> , <i>Walwhalleya proluta</i> , <i>Paspalidium caespitosum</i> , <i>Sporobolus actinocladus</i> , <i>Astrebula lappacea</i>	6
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Cheilanthes sieberi</i> , <i>Ammannia multiflora</i> , <i>Alternanthera denticulata</i> , <i>Cyperus</i> sp., <i>Dipteracanthus australasicus</i> , <i>Sclerolaena tetracuspis</i> , <i>Basilicum polystachion</i> , <i>Centipeda minima</i> , <i>Rorippa eustylis</i> , <i>Pseudognaphalium luteoalbum</i>	11
Other spp.: <i>Clematicissus opaca</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Xanthium occidentale</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	31.1			
Shrub canopy cover (100 m canopy intercept)	% cover	15.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	9			
Litter cover (1 m x 1 m plots)	% cover	40			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	500			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	2
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + landscape	106	51
Total	80	49	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	51

Habitat quality score:

5

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 5.17BC01 – Endangered vegetation	Assessor – Bruce McLennan (Arcadian Ecology)
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07656; 148.45959
50 m (centre point):	-22.07617; 148.45937
100 m (end point):	-22.07577; 148.45911
Elevation (mAHD):	204
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum and Poplar gum fringed grassy swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	2
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	4
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. platyphylla</i>	2
50 x 10 m area	
Shrub spp. richness:	0
Grass spp. richness: <i>Brachyachne convergens</i> , <i>Microlaena stipoides</i>	2
Forb spp. richness: <i>Centipeda minima</i> , <i>Alternanthera nana</i> , <i>Phyllanthus virgatus</i>	3
Other spp.: <i>Cymbidium canaliculatum</i>	1
Weed spp. and cover as % of area: <i>Heliotropium indicum</i> , <i>Eclipta prostrata</i> , <i>Passiflora foetida</i>	<5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	21.8			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	70			
Litter cover (1 m x 1 m plots)	% cover	29			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	395			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	31			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	2.5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	7
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	0	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	5	Site + landscape	106	63.5
Total	80	56.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	63.5

Habitat quality score:

6

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 5.17BC02 – Endangered	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.09204; 148.49074
50 m (centre point):	-22.09177; 148.49109
100 m (end point):	Not recorded
Elevation (mAHD):	200
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum fringed grassy swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	6
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	12
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i>	1
50 x 10 m area	
Shrub spp. richness:	0
Grass spp. richness: <i>Brachyachne convergens</i>	1
Forb spp. richness: <i>Marsilea sp.</i>	1
Other spp.:	0
Weed spp. and cover as % of area:	<5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	36.9			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	25			
Litter cover (1 m x 1 m plots)	% cover	75			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	31			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	2.5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	2.5	Total:	26	5
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	0	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	0	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	3	Site + landscape	106	54
Total	80	49	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	54

Habitat quality score:

5

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 5.17BC03 – Endangered	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07801; 148.46028
50 m (centre point):	-22.07781; 148.45988
100 m (end point):	-22.07753; 148.45952
Elevation (mAHD):	208
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum and Poplar gum woodland on grassy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	14
Tree canopy (EDL) height (m):	17
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Eucalyptus platyphylla</i> , <i>E. tereticornis</i> x <i>E. platyphylla</i> hybrid	2
50 x 10 m area	
Shrub spp. richness:	0
Grass spp. richness: <i>Brachyachne convergens</i> , <i>Dinebra decipiens</i> , <i>Eragrostis elongata</i>	3
Forb spp. richness: <i>Cyperus victoriensis</i> , <i>Phyllanthus virgatus</i> , <i>Centipeda minima</i>	3
Other spp.:	0
Weed spp. and cover as % of area: <i>Sida spinescens</i> , <i>Heliotropium indicum</i> , <i>Passiflora foetida</i>	<1

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	34.6			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	44			
Litter cover (1 m x 1 m plots)	% cover	51			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	365			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	31			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	2.5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	7
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	0	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	5	Site + landscape	106	65.5
Total	80	58.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	65.5

Habitat quality score:

6

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 5.17BC04 – endangered	Assessor – Bruce McLennan
Property: Iffley	Date: 22/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.23622; 148.52362
50 m (centre point):	-22.23578; 148.52347
100 m (end point):	-22.23535; 148.52336
Elevation (mAHD):	177
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum grassy woodland
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness:	1
<i>Eucalyptus tereticornis</i>	
50 x 10 m area	
Shrub spp. richness: <i>Ludwigia octovalvis</i>	1
Grass spp. richness: <i>Dinebra decipiens</i> , <i>Eragrostis lacunaria</i> , <i>Brachyachne convergens</i> , <i>Digitaria</i> sp.	4
Forb spp. richness: <i>Sphaeromorphaea australis</i> , <i>Centipeda minima</i> , <i>Alternanthera denticulata</i> , <i>Dentella repens</i> , <i>Polygonum plebeium</i> , <i>Cyperus</i> sp., <i>Balsamicum</i> <i>polystachion</i> , <i>Ammannia multiflora</i>	8
Other spp.:	0
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Echinochloa colona</i> , <i>Gomphrena celosioides</i> , <i>Stylosanthes scabra</i> , <i>Scoparia dulcis</i> , <i>Heliotropium indicum</i>	<5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	36.2			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	9			
Litter cover (1 m x 1 m plots)	% cover	40			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	450			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	31			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	0	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	5	Site + landscape	106	58
Total	80	54	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	58

Habitat quality score :

5

Site photos



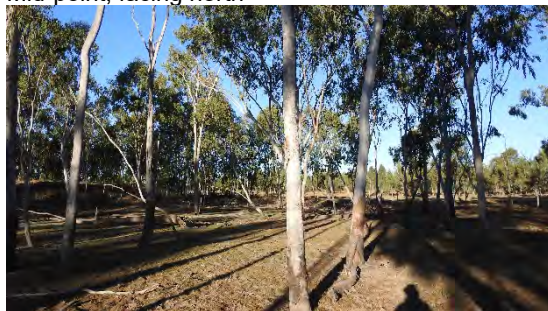
Start point, facing N



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



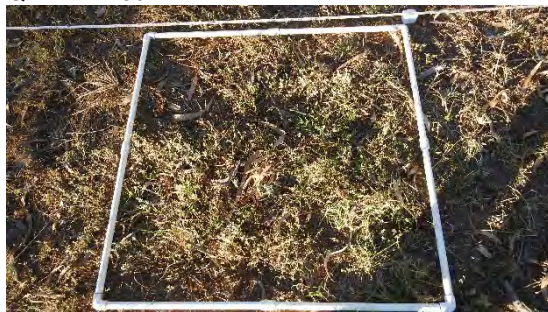
Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC01 – connectivity	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06212; 148.46582
50 m (centre point):	-22.06168; 148.46599
100 m (end point):	-22.06133; 148.46613
Elevation (mAHD):	201
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Ventilago viminalis</i> , <i>E. tereticornis</i> , <i>Acacia salicina</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Carissa ovata</i> , <i>Acacia oswaldii</i> , <i>Atalaya hemiglauc</i> , <i>Capparis lasiantha</i> , <i>Ehretia</i> <i>membranifolia</i> , <i>Diospyros humilis</i> , <i>Capparis loranthifolia</i> , <i>Psydrax oleifolius</i>	11
Grass spp. richness: <i>Aristida calycina</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis</i> <i>brownii</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Evolvulus alsinoides</i> , <i>Alternanthera sp.</i> , <i>Galactia</i> <i>tenuifolia</i> , <i>Cyperus gracilis</i> , <i>Fimbristylis dichotoma</i>	6
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i> , <i>Malvastrum americanum</i>	80

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	21.9
Shrub canopy cover (100 m canopy intercept)	% cover	8.2
Native perennial grass cover (1 m x 1 m plots)	% cover	4
Litter cover (1 m x 1 m plots)	% cover	37
Coarse woody debris (from 50 m x 20 m plot)	m / ha	360
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	6
Shrubs	no. species	6
Grasses	no. species	6
Forbs	no. species	10
Large eucalypts	no. / ha	9
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	16
Tree canopy cover	%	20
Native shrub cover	%	3
Native perennial grass cover	%	19
Organic litter cover	%	20
Coarse woody debris	m / ha	314

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + landscape	106	61
Total	80	43	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	61

Habitat quality score:

6

Site photos



Start point, facing NNE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC02 – connectivity	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.8 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05995; 148.45776
50 m (centre point):	-22.05984; 148.45729
100 m (end point):	-22.05972; 148.45683
Elevation (mAHD):	208
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Dawson gum regrowth on stony tight clay soils with shrubby understory
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	38
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	22
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9.5
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus cambageana</i> , <i>E. populnea</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Cassia brewsteri</i> , <i>Grewia retusifolia</i> , <i>Carissa ovata</i> , <i>Flindersia dissosperma</i> , <i>Acacia oswaldii</i> , <i>Capparis lasiantha</i> , <i>Citrus glauca</i> , <i>Ventilago viminalis</i> , <i>Atalaya hemiglauc</i> , <i>Ehretia membranifolia</i> , <i>Myoporum acuminatum</i> , <i>Alectryon oleifolius</i> , <i>Diospyros humilis</i>	13
Grass spp. richness: <i>Sporobolus caroli</i> , <i>A. jerichoensis</i> , <i>Enteropogon ramosus</i> , <i>Ancistrachne uncinulata</i> , <i>Bothriochloa bladhii</i> , <i>Aristida queenslandicus</i>	6
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Glycine sp.</i> , <i>Alternanthera denticulata</i> , <i>Nyssanthus erecta</i> , <i>Pseuderanthemum variabile</i>	5
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i>	25-30

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	25.3
Shrub canopy cover (100 m canopy intercept)	% cover	16.6
Native perennial grass cover (1 m x 1 m plots)	% cover	11
Litter cover (1 m x 1 m plots)	% cover	23
Coarse woody debris (from 50 m x 20 m plot)	m / ha	725
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	10
Grasses	no. species	9
Forbs	no. species	7
Large eucalypts	no. / ha	28
Large non-eucalypts	no. / ha	42
Tree canopy median height	m	17
Tree canopy cover	%	40
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	37
Coarse woody debris	m / ha	813

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	3	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	3	Total	50	0
Litter cover	5	5	Site + landscape	106	62
Total	80	46	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	62

Habitat quality score:

6

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC03 – connectivity	Assessor – Bruce McLennan (Arcadian Ecology)
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06037; 148.47212
50 m (centre point):	-22.06082; 148.47223
100 m (end point):	-22.06123; 148.47238
Elevation (mAHD):	196
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	7
Sub-canopy height (m):	4
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>Acacia salicina</i> , <i>Vachellia bidwillii</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Vachellia bidwillii</i> , <i>Petalostigma pubescens</i> , <i>Myoporum acuminatum</i> , <i>Denhamia cunninghamii</i>	7
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis sororia</i> , <i>Eragrostis brownii</i> , <i>Panicum effusum</i> ,	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Evolvulus alsinoides</i> , <i>Polygala sp.</i>	3
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i>	60

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	25.3			
Shrub canopy cover (100 m canopy intercept)	% cover	1.1			
Native perennial grass cover (1 m x 1 m plots)	% cover	1.4			
Litter cover (1 m x 1 m plots)	% cover	15			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	270			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	M	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	0	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + landscape	106	60
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	60

Habitat quality score:

6

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC04 – connectivity	Assessor – Bruce McLennan (Arcadian Ecology)
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.8 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05552; 148.48549
50 m (centre point):	-22.05584; 148.48579
100 m (end point):	-22.05623; 148.48604
Elevation (mAHD):	Not recorded
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Dawson gum regrowth on clay plain with shrubby understory
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	38
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	22
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	11
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus. cambageana, E. populnea</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Acacia harpophylla, Terminalia oblongata, Carissa ovata, Flindersia dissosperma, Acacia oswaldii, Capparis lasiantha, Eremophila mitchellii, Owenia acidula, Atalaya hemiglauc, Ehretia saligna, Enchylaena tomentosa, Eremophila debile</i>	12
Grass spp. richness: <i>Sporobolus caroli, A. jerichoensis, Enteropogon ramosus</i>	3
Forb spp. richness: <i>Cyperus gracilis, Glycine sp., Alternanthera denticulata, Nyssanthus erecta</i>	4
Other spp.: <i>Parsonsia lanceolata, Jacquemontia paniculata, Marsdenia australis</i>	3
Weed spp. and cover as % of area: <i>Cenchrus ciliaris, Urochloa mosambicensis, Harrisia martinii</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	24.6			
Shrub canopy cover (100 m canopy intercept)	% cover	20.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	53			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	575			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	10			
Grasses	no. species	9			
Forbs	no. species	7			
Large eucalypts	no. / ha	28			
Large non-eucalypts	no. / ha	42			
Tree canopy median height	m	17			
Tree canopy cover	%	40			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	37			
Coarse woody debris	m / ha	813			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	0	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + landscape	106	65
Total	80	47	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	65

Habitat quality score:

6

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC05 – connectivity	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06441; 148.48267
50 m (centre point):	-22.06418; 148.48227
100 m (end point):	-22.06395; 148.48183
Elevation (mAHD):	196
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Atalaya hemiglauc</i> , <i>Acacia salicina</i> ,	3
50 x 10 m area	
Shrub spp. richness: <i>Carissa ovata</i> , <i>Atalaya hemiglauc</i> , <i>Ventilago viminalis</i> , <i>Capparis umbonata</i> , <i>Alectryon oleifolius</i> , <i>Cassia brewsteri</i> , <i>Acacia salicina</i> , <i>Eremophila mitchellii</i> , <i>Flindersia dissosperma</i> , <i>Ehretia membranifolia</i> , <i>Acacia oswaldii</i> , <i>Grevillea striata</i> , <i>Denhamia cunninghamii</i>	13
Grass spp. richness: <i>Aristida calycina</i> , <i>Bothriochloa bladhii</i> , <i>Eragrostis sp.</i> , <i>Enteropogon ramosus</i> , <i>Chrysopogon fallax</i> , <i>Panicum effusum</i> ,	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Cyperus sp.</i> , <i>Glycine sp.</i> , <i>Melhania oblongifolia</i> , <i>Nyssanthus erecta</i> , <i>Fimbristylis dichotoma</i> , <i>Alternanthera denticulata</i> , <i>Uident</i> , <i>Rhynchosia minima</i>	9
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pertusa</i> , <i>Stylosanthes scabra</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	10.2			
Shrub canopy cover (100 m canopy intercept)	% cover	6.5			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	16			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	305			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	16
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	0	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + landscape	106	58
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	58

Habitat quality score:

5

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC06 – connectivity	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05447; 148.48108
50 m (centre point):	-22.05491; 148.481
100 m (end point):	-22.05537; 148.48093
Elevation (mAHD):	207
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. cambageana</i> ,	2
50 x 10 m area	
Shrub spp. richness: <i>Carissa ovata</i> , <i>Ventilago viminalis</i> , <i>Cassia brewsteri</i> , <i>Acacia excelsa</i> , <i>Eremophila mitchellii</i> , <i>Acacia oswaldii</i> , <i>Denhamia cunninghamii</i> , <i>Capparis lasiantha</i> , <i>Psydrax oleifolius</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>A. personata</i> , <i>Chrysopogon fallax</i>	4
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Sida rohlenae</i> , <i>Melhania oblongifolia</i> , <i>Evolvulus alsinoides</i> , <i>Waltheria indica</i> , <i>Pterocaulon redolens</i>	6
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pertusa</i> , <i>Opuntia tomentosa</i>	50

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	9.1
Shrub canopy cover (100 m canopy intercept)	% cover	1.9
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	24
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	6
Shrubs	no. species	6
Grasses	no. species	6
Forbs	no. species	10
Large eucalypts	no. / ha	9
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	16
Tree canopy cover	%	20
Native shrub cover	%	3
Native perennial grass cover	%	19
Organic litter cover	%	20
Coarse woody debris	m / ha	314

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	0	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + landscape	106	55
Total	80	39	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	55

Habitat quality score:

5

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC07 – connectivity	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06027; 148.47829
50 m (centre point):	-22.06006; 148.47871
100 m (end point):	-22.05988; 148.47914
Elevation (mAHD):	205
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. cambageana</i> , <i>Acacia salicina</i> , <i>Corymbia clarksoniana</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Owenia acidula</i> , <i>Grewia latifolia</i> , <i>Melaleuca nervosa</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Eragrostis sp.</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa bladhii</i>	7
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Calotis cuneifolia</i> , <i>Evolvulus alsinoides</i> , <i>Waltheria indica</i>	4
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Malvastrum americanum</i> , <i>Stylosanthes scabra</i> , <i>Sida spinescens</i> , <i>Scoparia dulcis</i> , <i>Harrisia martinii</i>	35

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	17.4			
Shrub canopy cover (100 m canopy intercept)	% cover	1.4			
Native perennial grass cover (1 m x 1 m plots)	% cover	3.8			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	465			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	3	Total	50	0
Litter cover	5	3	Site + landscape	106	58
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	58

Habitat quality score:

5

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC08 – connectivity	Assessor – Bruce McLennan (Arcadian Ecology)
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07139; 148.46609
50 m (centre point):	-22.07178; 148.46594
100 m (end point):	-22.07220; 148.46577
Elevation (mAHD):	209
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	7
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Corymbia clarksoniana</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Vachellia bidwillii</i> , <i>Grewia retusifolia</i> , <i>Atalaya hemiglaucula</i> , <i>Acacia salicina</i> , <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Capparis lasiantha</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Panicum effusum</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa bladhii</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Fimbristylis dichotoma</i> , <i>Nyssanthus erecta</i> , <i>Waltheria indica</i>	4
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i>	30

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	15.5			
Shrub canopy cover (100 m canopy intercept)	% cover	4			
Native perennial grass cover (1 m x 1 m plots)	% cover	6			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	625			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	3	Total	50	0
Litter cover	5	5	Site + landscape	106	62
Total	80	48	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	62

Habitat quality score:

6

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



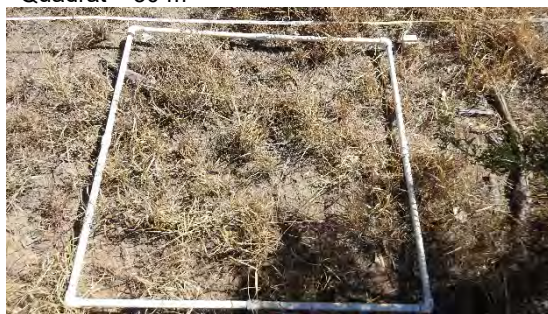
Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC09 – connectivity	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07333; 148.45364
50 m (centre point):	-22.07287; 148.45351
100 m (end point):	-22.07251; 148.45338
Elevation (mAHD):	206
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	6.5
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Corymbia clarksoniana</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Petalostigma pubescens</i> , <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Capparis lasiantha</i>	8
Grass spp. richness: <i>Aristida calycina</i> , <i>Panicum effusum</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa sp.</i> , <i>Enteropogon acicularis</i> , <i>Enneapogon avenaceus</i>	8
Forb spp. richness: <i>Alternanthera sp.</i> , <i>Phyllanthus virgatus</i> , <i>Fimbristylis dichotoma</i> , <i>Sida sp.</i>	4
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Bothriochloa pertusa</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	1.5			
Shrub canopy cover (100 m canopy intercept)	% cover	13.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	8			
Litter cover (1 m x 1 m plots)	% cover	29			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	800			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	12
Tree canopy cover	5	0	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + landscape	106	50
Total	80	38	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	50

Habitat quality score:

5

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC10 – connectivity	Assessor – Bruce McLennan	
Property: Twenty Mile	Date: 21/05/2018	
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs	
State mapped RE: Non-remnant	Observed RE: 11.4.8 regrowth (Non-remnant) – probable 11.5.3 or 11.3.2 ecotone	
Transect Co-ordinates (Datum) General Site Description		
0 m (start of transect):	-22.04067; 148.47028	
50 m (centre point):	-22.04106; 148.47050	
100 m (end point):	-22.04147; 148.47076	
Elevation (mAHD):	213	
General Site Description		
Landform	Gently undulating plain	
Soil	Sandy light clay	
Dominant vegetation observed	Poplar box and Dawson gum regrowth on gravelly sandy light clay	
100 x 50 m area (0.5 ha)		
Dominant canopy or EDL species with evidence of recruitment (%):	100	
Eucalypt large tree DBH (cm): (from benchmark document)	38	
Number of large Eucalypt trees:	0	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	22	
Number of large Non-Eucalypt trees:	0	
Total large trees/ha:	0	
Tree canopy (EDL) height (m):	10	
Sub-canopy height (m):	6	
Emergent height (m):	NA	
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. cambageana</i>	2	
50 x 10 m area		
Shrub spp. richness: <i>Cassia brewsteri</i> , <i>Carissa ovata</i> , <i>Ventilago viminalis</i> , <i>Acacia rhodoxylon</i> , <i>Capparis loranthifolia</i> , <i>Eremophila mitchellii</i> , <i>Acacia salicina</i> , <i>Grewia latifolia</i> , <i>Erythroxylum australe</i> , <i>Eremophila debile</i> , <i>Psyrdrax sp.</i> , <i>Dodonaea lanceolata</i>	12	
Grass spp. richness: <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>Enteropogon ramosus</i> , <i>Paspalidium caespitosum</i>	4	
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Dianella nervosa</i> , <i>Sida sp.</i>	3	
Other spp.:	0	
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Urochloa mosambicensis</i> , <i>Opuntia tomentosa</i>	20	

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	30.4			
Shrub canopy cover (100 m canopy intercept)	% cover	4.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	3			
Litter cover (1 m x 1 m plots)	% cover	45			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	710			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	10			
Grasses	no. species	9			
Forbs	no. species	7			
Large eucalypts	no. / ha	28			
Large non-eucalypts	no. / ha	42			
Tree canopy median height	m	17			
Tree canopy cover	%	40			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	37			
Coarse woody debris	m / ha	813			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	0	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + landscape	106	66
Total	80	48	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	66

Habitat quality score:

6

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.2BC01 – Greater glider habitat		Assessor – Bruce McLennan
Property: Twenty Mile		Date: 28/04/2018
Bioregion: Brigalow Belt		Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (65/30/5)		Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description		
0 m (start of transect):		-22.04382; 148.47989
50 m (centre point):		-22.04380; 148.47940
100 m (end point):		Not recorded
Elevation (mAHD):		208
General Site Description		
Landform		Gently undulating plain
Soil		Sandy loam
Dominant vegetation observed		Poplar box woodland with shrubby understory on alluvial clay loam
100 x 50 m area (0.5 ha)		
Dominant canopy or EDL species with evidence of recruitment (%):		100
Eucalypt large tree DBH (cm): (from benchmark document)		40
Number of large Eucalypt trees:		7
Non-Eucalypt large tree DBH (cm): (from benchmark document)		NA
Number of large Non-Eucalypt trees:		
Total large trees/ha:		14
Tree canopy (EDL) height (m):		18
Sub-canopy height (m):		7
Emergent height (m):		NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. crebra</i> , <i>Owenia acidula</i> , <i>Eremophila mitchellii</i> , <i>Alectryon oleifolius</i> , <i>Flindersia australis</i> , <i>F. dissosperma</i> , <i>Acacia excelsa</i> , <i>E. populnea</i> x <i>E. crebra</i> .		8
50 x 10 m area		
Shrub spp. richness: <i>Grewia latifolia</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Petalostigma pubescens</i> , <i>Geijera parviflora</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Capparis loranthifolia</i> , <i>Acacia excelsa</i> , <i>Alectryon oleifolius</i> , <i>Denhamia cunninghamii</i> , <i>Acacia oswaldii</i> , <i>Eremophila debile</i>		13
Grass spp. richness: <i>Eragrostis sororia</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>Enneapogon</i> sp., <i>Themeda triandra</i> , <i>Chrysopogon fallax</i> , <i>Aristida calycina</i> , <i>Aristida</i> sp., <i>Oplismenus</i> sp.		9
Forb spp. richness: <i>Pterocaulon redolens</i> , <i>Waltheria indica</i> , <i>Calotis cuneifolia</i> , <i>Hibiscus sturtii</i> , <i>Phyllanthus virgatus</i> , <i>Achyranthes aspera</i> , <i>Cyperus gracilis</i> , <i>Desmodium macrocarpum</i> .		8
Other spp.: <i>Lomandra multiflora</i> , <i>Parsonsia lanceolata</i> , <i>Jacquemontia paniculata</i> , <i>Eustrephus latifolius</i>		5
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i>		10

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	45.8			
Shrub canopy cover (100 m canopy intercept)	% cover	14			
Native perennial grass cover (1 m x 1 m plots)	% cover	10			
Litter cover (1 m x 1 m plots)	% cover	38			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	370			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	2			
Shrubs	no. species	2			
Grasses	no. species	9			
Forbs	no. species	17			
Large eucalypts	no. / ha	22			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	40			
Native shrub cover	%	2			
Native perennial grass cover	%	35			
Organic litter cover	%	30			
Coarse woody debris	m / ha	307			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	5	Total	50	28
Litter cover	5	5	Site + landscape	106	73
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	101

Habitat quality score:

6

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.2BC02 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (65/30/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06423; 148.46820
50 m (centre point):	-22.06446; 148.46785
100 m (end point):	-22.06468; 148.46751
Elevation (mAHD):	197
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland on alluvial clay loam
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	18
Tree canopy (EDL) height (m):	18.5
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>C. tessellaris</i> , <i>Vachellia bidwillii</i> , <i>Alphitonia excelsa</i> , <i>Atalaya hemiglauc</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>G. retusifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Petalostigma pubescens</i> , <i>Sida hackettiana</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Atalaya hemiglauc</i> , <i>Acacia excelsa</i> , <i>Abutilon oxycarpum</i> , <i>Eremophila debile</i>	12
Grass spp. richness: <i>Eragrostis sororia</i> , <i>Enteropogon ramosus</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>B. decipiens</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Chrysopogon fallax</i> , <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>Enneapogon avenaceus</i> , <i>Enneapogon sp.</i> , <i>Alloteropsis semialata</i> , <i>Eulalia aurea</i>	14
Forb spp. richness: <i>Pterocaulon redolens</i> , <i>Waltheria indica</i> , <i>Apowollastonia spilanthisoides</i> , <i>Commelina diffusa</i> , <i>Hibiscus sp.</i> , <i>Zornia sp.</i> , <i>Melhania oblongifolia</i> , <i>Phyllanthus virgatus</i> , <i>Achyranthes aspera</i> , <i>Rostellularia adscendens</i> , <i>Calotis cuneifolia</i> , <i>Cyanthillium cinereum</i> , <i>Glycine tomentella</i> , <i>Glycine sp.</i> , <i>Alternanthera denticulata</i> , <i>Cyperus gracilis</i> , <i>Crinum flaccidum</i> , <i>Cyperus sp.</i>	18
Other spp.: <i>Lomandra longifolia</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Gomphrena celosioides</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	48.1			
Shrub canopy cover (100 m canopy intercept)	% cover	9.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	22			
Litter cover (1 m x 1 m plots)	% cover	61			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	370			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	2			
Shrubs	no. species	2			
Grasses	no. species	9			
Forbs	no. species	17			
Large eucalypts	no. / ha	22			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	40			
Native shrub cover	%	2			
Native perennial grass cover	%	35			
Organic litter cover	%	30			
Coarse woody debris	m / ha	307			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	10	Total	50	28
Litter cover	5	3	Site + landscape	106	82
Total	80	71	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	110

Habitat quality score:

7

Site photos



Start point, facing SW



Mid-point, facing north



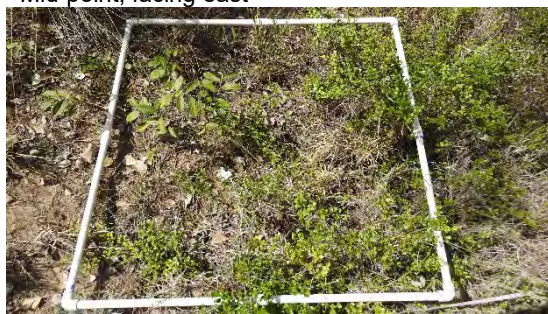
Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC01 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05728; 148.49925
50 m (centre point):	-22.05704; 148.49968
100 m (end point):	Not recorded
Elevation (mAHD):	193
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum with shrubby understory on alluvial terraces
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	16
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. crebra</i> , <i>Corymbia tessellaris</i> , <i>Erythrina vespertilio</i> , <i>Cassia brewsteri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Capparis loranthifolia</i> , <i>Flueggea leucopyrus</i> , <i>Lysicarpus hookeri</i> , <i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum subsp. lineare</i> , <i>Grewia latifolia</i> , <i>Grewia retusifolia</i> , <i>Ficus opposita</i> , <i>Acacia salicina</i> , <i>Petalostigma pubescens</i> , <i>Sida hackettiana</i>	12
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Bothriochloa bladhii</i> , <i>Aristida sp.</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa ewartiana</i>	5
Forb spp. richness: <i>Glycine tomentella</i> , <i>Cyperus gracilis</i> , <i>Commelina diffusa</i> , <i>Waltheria indica</i> , <i>Crotalaria sp.</i> , <i>Crinum flaccidum</i> ,	6
Other spp.: <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Sida rhombifolia</i> , <i>Urochloa mosambicensis</i> , <i>Stylosanthes scabra</i>	80

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	18			
Shrub canopy cover (100 m canopy intercept)	% cover	3.1			
Native perennial grass cover (1 m x 1 m plots)	% cover	2			
Litter cover (1 m x 1 m plots)	% cover	11			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	445			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	17
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	35
Litter cover	5	5	Site + Landscape	106	72
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	107

Habitat quality score:

7

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC02 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04375; 148.47647
50 m (centre point):	-22.04361; 148.47679
100 m (end point):	-22.04336; 148.47729
Elevation (mAHD):	205
General Site Description	
Landform	Stream channel
Soil	Sand
Dominant vegetation observed	Forest red gum and River tea tree on a watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	12
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	5
Total large trees/ha:	34
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. populnea</i> , <i>Melaleuca fluviatilis</i> , <i>Corymbia tessellaris</i> , <i>C. clarksoniana</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Lysiphyllum hookeri</i> , <i>Alphitonia excelsa</i>	9
50 x 10 m area	
Shrub spp. richness: <i>Exocarpos latifolius</i> , <i>Flueggea leucopyrus</i> , <i>Lysicarpus hookeri</i> , <i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Diospyros humilis</i> , <i>Atalaya hemiglauca</i> , <i>Dodonaea sp.</i> , <i>Grewia latifolia</i> , <i>Sida hackettiana</i>	10
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Themeda triandra</i> , <i>Aristida sp.</i> , <i>Heteropogon contortus</i> , <i>Oplismenus aemulus</i> , <i>Panicum effusum</i> , <i>Eulalia aurea</i>	7
Forb spp. richness: <i>Glycine tomentella</i> , <i>Cyperus gracilis</i> , <i>Ipomoea sp.</i> , <i>Desmodium macrocarpum</i> , <i>Achyranthes aspera</i> , <i>Commelina diffusa</i> , <i>Glycine tabacina</i> , <i>Rhynchosia minima</i>	8
Other spp.: <i>Lomandra longifolia</i> , <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	3
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Emilia sonchifolia</i> , <i>Sida rhombifolia</i> , <i>Tridax procumbens</i> , <i>Malvastrum americanum</i> , <i>Bothriochloa pertusa</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	71			
Shrub canopy cover (100 m canopy intercept)	% cover	16.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	16			
Litter cover (1 m x 1 m plots)	% cover	50			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	500			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	19
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	15	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	0	Total	50	38
Litter cover	5	3	Site + Landscape	106	79
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	117

Habitat quality score:

8

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC03 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.03214; 148.46191
50 m (centre point):	-22.03231; 148.46239
100 m (end point):	-22.03252; 148.46280
Elevation (mAHD):	212
General Site Description	
Landform	Stream channel
Soil	Sand
Dominant vegetation observed	Forest red gum and River tea tree on a watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	2
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	25
Total large trees/ha:	54
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. crebra</i> , <i>E. populnea</i> , <i>Melaleuca fluviatilis</i> , <i>Corymbia tessellaris</i> , <i>C. clarksoniana</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Lysiphyllum hookeri</i> , <i>Cassia brewsteri</i>	10
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>Flueggea leucopyrus</i> , <i>Grewia latifolia</i> , <i>Acalypha eremorum</i> , <i>Petalostigma pubescens</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Diospyros humilis</i> , <i>Bursaria incana</i> , <i>Acacia rhodoxylon</i>	19
Grass spp. richness: <i>Themeda avenacea</i> , <i>Themeda triandra</i> , <i>Arundinella nepalensis</i> , <i>Heteropogon contortus</i> , <i>Eragrostis sororia</i> , <i>Eragrostis elongata</i> , <i>Dinebra decipiens</i> , <i>Panicum sp.</i> , <i>Sporobolus creber</i>	9
Forb spp. richness: <i>Glycine tomentella</i> , <i>Phyllanthus virgatus</i> , <i>Pratia concolor</i> , <i>Ipomoea sp.</i>	4
Other spp.: <i>Lomandra longifolia</i> , <i>Eustrephus latifolius</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Solanum seafortianum</i> , <i>Senna occidentalis</i> , <i>Opuntia tomentosa</i> , <i>Stylosanthes scabra</i> , <i>Melochia pyramidata</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	40			
Shrub canopy cover (100 m canopy intercept)	% cover	20.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	16			
Litter cover (1 m x 1 m plots)	% cover	13			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	177			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	19
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	15	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	5	Total	50	38
Litter cover	5	5	Site + Landscape	106	90
Total	80	71	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	128

Habitat quality score:

8

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC04 – Greater glider habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.25	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16444; 148.37341
50 m (centre point):	-22.16448; 148.37302
100 m (end point):	-22.16464; 148.37254
Elevation (mAHD):	177
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum on alluvial terraces and banks
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	6
Total large trees/ha:	30
Tree canopy (EDL) height (m):	37
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Casuarina cunninghamiana</i> , <i>Corymbia tessellaris</i> , <i>Ficus opposita</i> , <i>Acacia salicina</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Melaleuca linariifolia</i> , <i>Lysiphyllum hookeri</i>	2
Grass spp. richness: <i>Cynodon dactylon</i>	1
Forb spp. richness: <i>Ipomoea</i> sp., <i>Pratia concolor</i>	2
Other spp.: <i>Eustrephus latifolius</i>	1
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Lantana camara</i> , <i>Sida rhombifolia</i> , <i>Urochloa mosambicensis</i> , <i>Macroptilium purpureum</i> , <i>Scoparia dulcis</i> , <i>Passiflora foetida</i> , <i>Erigeron bonariensis</i> , <i>Leucas lavandulifolia</i> , <i>Calyptocarpus vialis</i> , <i>Bothriochloa pertusa</i> , <i>Parthenium hysterophorus</i>	90

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	77.5			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	2.5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	24
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	0	Site location	5	4
Weed cover	10	0	Total	50	28
Litter cover	5	3	Site + Landscape	106	65.5
Total	80	41.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	93.5

Habitat quality score:

6

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



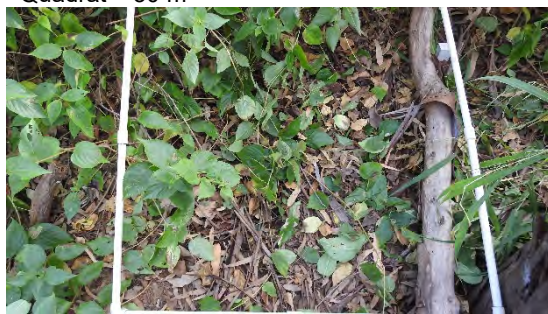
Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC05 – Greater glider habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1/11.3.1b (65/20/10/5)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.27048; 148.44382
50 m (centre point):	-22.27045; 148.44337
100 m (end point):	-22.27041; 148.44290
Elevation (mAHD):	174
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum on flood channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	11
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	24
Tree canopy (EDL) height (m):	27
Sub-canopy height (m):	14
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia clarksoniana</i> , <i>Corymbia tessellaris</i> , <i>Acacia salicina</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Cassia brewsteri</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Grewia latifolia</i>	4
Grass spp. richness: <i>Capillipedium spicigerum</i> , <i>Eragrostis elongata</i> , <i>Cynodon dactylon</i> , <i>Dichanthium sp.</i> , <i>Eriochloa sp.</i> , <i>Aristida sp.</i> , <i>Digitaria sp.</i>	7
Forb spp. richness: <i>Aeschynomene indicum</i> , <i>Basilicum polystachion</i> , <i>Cyperus sp.</i> , <i>Cyanthillium cinereum</i> , <i>Crotalaria sp.</i> , <i>Sida sp.</i> , <i>Juncus sp.</i> , <i>Rhynchosia minima</i> , <i>Eleocharis blakeana</i> , <i>Euphorbia tannensis</i> , <i>Vittadinia sp.</i> , <i>Euphorbia drummondii</i> .	12
Other spp.:	0
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Lantana camara</i> , <i>Macroptilium atropurpureum</i> , <i>Stylosanthes scabra</i> , <i>Passiflora foetida</i> , <i>Cenchrus ciliaris</i> , <i>Gomphrena celosioides</i> , <i>Parthenium hysterophorus</i> , <i>Melochia pyramidata</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	34.8			
Shrub canopy cover (100 m canopy intercept)	% cover	1.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	52			
Litter cover (1 m x 1 m plots)	% cover	32			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	24
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	15	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	5	Total	50	28
Litter cover	5	3	Site + Landscape	106	97
Total	80	73	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	125

Habitat quality score:

8

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC06 – Greater glider habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.22520; 148.43639
50 m (centre point):	-22.22548; 148.43603
100 m (end point):	-22.22563; 148.43575
Elevation (mAHD):	178
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum and Tea tree on creek channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	15
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	32
Tree canopy (EDL) height (m):	23
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Melaleuca fluviatilis</i> , <i>Acacia salicina</i> , <i>Lysiphyllum hookeri</i> , <i>Alphitonia excelsa</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Erythrina vespertilio</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Acacia flavescens</i> , <i>Santalum lanceolatum</i> , <i>Acacia leiocalyx</i>	6
Grass spp. richness: <i>Heteropogon contortus</i> , <i>Cynodon dactylon</i> , <i>Enteropogon ramosus</i>	3
Forb spp. richness: <i>Waltheria indica</i>	1
Other spp.:	0
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Lantana camara</i> , <i>Macroptilium atropurpureum</i> , <i>Passiflora foetida</i> , <i>Cenchrus ciliaris</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Erigeron bonariensis</i> , <i>Sida cordifolia</i> , <i>Richardia brasiliensis</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	93.1			
Shrub canopy cover (100 m canopy intercept)	% cover	1.7			
Native perennial grass cover (1 m x 1 m plots)	% cover	3			
Litter cover (1 m x 1 m plots)	% cover	27			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	375			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	2.5	Total:	26	5
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	15	Mobility	10	4
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	18
Litter cover	5	5	Site + Landscape	106	64.5
Total	80	59.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	82.5

Habitat quality score:

5

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC01 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06212; 148.46582
50 m (centre point):	-22.06168; 148.46599
100 m (end point):	-22.06133; 148.46613
Elevation (mAHD):	201
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Ventilago viminalis</i> , <i>Eucalyptus tereticornis</i> , <i>Acacia salicina</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Carissa ovata</i> , <i>Acacia oswaldii</i> , <i>Atalaya hemiglauc</i> , <i>Capparis lasiantha</i> , <i>Ehretia membranifolia</i> , <i>Diospyros humilis</i> , <i>Capparis loranthifolia</i> , <i>Psyrax oleifolius</i>	11
Grass spp. richness: <i>Aristida calycina</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis brownii</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Evolvulus alsinoides</i> , <i>Alternanthera sp.</i> , <i>Galactia tenuifolia</i> , <i>Cyperus gracilis</i> , <i>Fimbristylis dichotoma</i>	6
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i> , <i>Malvastrum americanum</i>	80

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	21.9			
Shrub canopy cover (100 m canopy intercept)	% cover	8.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	4			
Litter cover (1 m x 1 m plots)	% cover	37			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	360			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	0	Mobility	10	1
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	11
Litter cover	5	5	Site + landscape	106	61
Total	80	43	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	72

Habitat quality score:

5

Site photos



Start point, facing NNE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC03 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06037; 148.47212
50 m (centre point):	-22.06082; 148.47223
100 m (end point):	-22.06123; 148.47238
Elevation (mAHD):	196
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	7
Sub-canopy height (m):	4
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>Acacia salicina</i> , <i>Vachellia bidwillii</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Vachellia bidwillii</i> , <i>Petalostigma pubescens</i> , <i>Myoporum acuminatum</i> , <i>Denhamia cunninghamii</i>	7
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis sororia</i> , <i>Eragrostis brownii</i> , <i>Panicum effusum</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Evolvulus alsinoides</i> , <i>Polygala sp.</i>	3
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i>	60

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	25.3			
Shrub canopy cover (100 m canopy intercept)	% cover	1.1			
Native perennial grass cover (1 m x 1 m plots)	% cover	1.4			
Litter cover (1 m x 1 m plots)	% cover	15			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	270			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	0	Quality of shelter	10	1
Large trees	15	0	Mobility	10	1
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	11
Litter cover	5	5	Site + landscape	106	60
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	71

Habitat quality score:

5

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC05 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06441; 148.48267
50 m (centre point):	-22.06418; 148.48227
100 m (end point):	-22.06395; 148.48183
Elevation (mAHD):	196
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Atalaya hemiglauc</i> , <i>Acacia salicina</i> ,	3
50 x 10 m area	
Shrub spp. richness: <i>Carissa ovata</i> , <i>Atalaya hemiglauc</i> , <i>Ventilago viminalis</i> , <i>Capparis umbonata</i> , <i>Alectryon oleifolius</i> , <i>Cassia brewsteri</i> , <i>Acacia salicina</i> , <i>Eremophila mitchellii</i> , <i>Flindersia dissosperma</i> , <i>Ehretia membranifolia</i> , <i>Acacia oswaldii</i> , <i>Grevillea striata</i> , <i>Denhamia cunninghamii</i>	13
Grass spp. richness: <i>Aristida calycina</i> , <i>Bothriochloa bladhii</i> , <i>Eragrostis sp.</i> , <i>Enteropogon ramosus</i> , <i>Chrysopogon fallax</i> , <i>Panicum effusum</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Cyperus sp.</i> , <i>Glycine sp.</i> , <i>Melhanian oblongifolia</i> , <i>Nyssanthus erecta</i> , <i>Fimbristylis dichotoma</i> , <i>Alternanthera denticulata</i> , <i>Uident</i> , <i>Rhynchosia minima</i>	9
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pertusa</i> , <i>Stylosanthes scabra</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	10.2			
Shrub canopy cover (100 m canopy intercept)	% cover	6.5			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	16			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	305			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	16
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	0	Quality of shelter	10	1
Large trees	15	0	Mobility	10	1
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	11
Litter cover	5	5	Site + landscape	106	58
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	69

Habitat quality score:

4

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC06 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05447; 148.48108
50 m (centre point):	-22.05491; 148.481
100 m (end point):	-22.05537; 148.48093
Elevation (mAHD):	207
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. cambageana</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Carissa ovata</i> , <i>Ventilago viminalis</i> , <i>Cassia brewsteri</i> , <i>Acacia excelsa</i> , <i>Eremophila mitchellii</i> , <i>Acacia oswaldii</i> , <i>Denhamia cunninghamii</i> , <i>Capparis lasiantha</i> , <i>Psydrax oleifolius</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>A. personata</i> , <i>Chrysopogon fallax</i>	4
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Sida rohlenae</i> , <i>Melhania oblongifolia</i> , <i>Evolvulus alsinoides</i> , <i>Waltheria indica</i> , <i>Pterocaulon redolens</i>	6
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pertusa</i> , <i>Opuntia tomentosa</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	9.1			
Shrub canopy cover (100 m canopy intercept)	% cover	1.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	24			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	1
Native perennial grass cover	5	0	Quality of shelter	10	1
Large trees	15	0	Mobility	10	1
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	11
Litter cover	5	5	Site + landscape	106	55
Total	80	39	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	66

Habitat quality score:

4

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC07 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06027; 148.47829
50 m (centre point):	-22.06006; 148.47871
100 m (end point):	-22.05988; 148.47914
Elevation (mAHD):	205
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. cambageana</i> , <i>Acacia salicina</i> , <i>Corymbia clarksoniana</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Owenia acidula</i> , <i>Grewia latifolia</i> , <i>Melaleuca nervosa</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Eragrostis sp.</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa bladhii</i>	7
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Calotis cuneifolia</i> , <i>Evolvulus alsinoides</i> , <i>Waltheria indica</i>	4
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Malvastrum americanum</i> , <i>Stylosanthes scabra</i> , <i>Sida spinescens</i> , <i>Scoparia dulcis</i> , <i>Harrisia martinii</i>	35

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	17.4			
Shrub canopy cover (100 m canopy intercept)	% cover	1.4			
Native perennial grass cover (1 m x 1 m plots)	% cover	3.8			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	465			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	0	Mobility	10	1
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	11
Litter cover	5	3	Site + landscape	106	58
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	69

Habitat quality score:

4

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC08 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07139; 148.46609
50 m (centre point):	-22.07178; 148.46594
100 m (end point):	-22.07220; 148.46577
Elevation (mAHD):	209
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	7
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Corymbia clarksoniana</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Vachellia bidwillii</i> , <i>Grewia retusifolia</i> , <i>Atalaya hemiglaucula</i> , <i>Acacia salicina</i> , <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Capparis lasiantha</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Panicum effusum</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa bladhii</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Fimbristylis dichotoma</i> , <i>Nyssanthus erecta</i> , <i>Waltheria indica</i>	4
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i>	30

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	15.5			
Shrub canopy cover (100 m canopy intercept)	% cover	4			
Native perennial grass cover (1 m x 1 m plots)	% cover	6			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	625			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	0	Mobility	10	1
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	11
Litter cover	5	5	Site + landscape	106	62
Total	80	48	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	73

Habitat quality score:

5

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



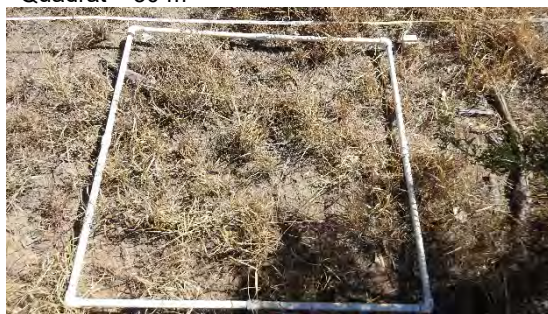
Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC09 – Greater glider habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07333; 148.45364
50 m (centre point):	-22.07287; 148.45351
100 m (end point):	-22.07251; 148.45338
Elevation (mAHD):	206
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	6.5
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Corymbia clarksoniana</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Petalostigma pubescens</i> , <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Capparis lasiantha</i>	8
Grass spp. richness: <i>Aristida calycina</i> , <i>Panicum effusum</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa sp.</i> , <i>Enteropogon acicularis</i> , <i>Enneapogon avenaceus</i>	8
Forb spp. richness: <i>Alternanthera sp.</i> , <i>Phyllanthus virgatus</i> , <i>Fimbristylis dichotoma</i> , <i>Sida sp.</i>	4
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Bothriochloa pertusa</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	1.5			
Shrub canopy cover (100 m canopy intercept)	% cover	13.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	8			
Litter cover (1 m x 1 m plots)	% cover	29			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	800			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	12
Tree canopy cover	5	0	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	0	Mobility	10	1
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	11
Litter cover	5	5	Site + landscape	106	50
Total	80	38	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	61

Habitat quality score:

4

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.2BC01 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (65/30/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04382; 148.47989
50 m (centre point):	-22.04380; 148.47940
100 m (end point):	Not recorded
Elevation (mAHD):	208
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland with shrubby understory on alluvial clay loam
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	14
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. crebra</i> , <i>Owenia acidula</i> , <i>Eremophila mitchellii</i> , <i>Alectryon oleifolius</i> , <i>Flindersia australis</i> , <i>F. dissosperma</i> , <i>Acacia excelsa</i> , <i>E. populnea</i> x <i>E. crebra</i> .	8
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Petalostigma pubescens</i> , <i>Geijera parviflora</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Capparis loranthifolia</i> , <i>Acacia excelsa</i> , <i>Alectryon oleifolius</i> , <i>Denhamia cunninghamii</i> , <i>Acacia oswaldii</i> , <i>Eremophila debile</i>	13
Grass spp. richness: <i>Eragrostis sororia</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>Enneapogon</i> sp., <i>Themeda triandra</i> , <i>Chrysopogon fallax</i> , <i>Aristida calycina</i> , <i>Aristida</i> sp., <i>Oplismenus</i> sp.	9
Forb spp. richness: <i>Pterocaulon redolens</i> , <i>Waltheria indica</i> , <i>Calotis cuneifolia</i> , <i>Hibiscus sturtii</i> , <i>Phyllanthus virgatus</i> , <i>Achyranthes aspera</i> , <i>Cyperus gracilis</i> , <i>Desmodium macrocarpum</i> .	8
Other spp.: <i>Lomandra multiflora</i> , <i>Parsonsia lanceolata</i> , <i>Jacquemontia paniculata</i> , <i>Eustrephus latifolius</i>	5
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i>	10

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	45.8			
Shrub canopy cover (100 m canopy intercept)	% cover	14			
Native perennial grass cover (1 m x 1 m plots)	% cover	10			
Litter cover (1 m x 1 m plots)	% cover	38			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	370			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	2			
Shrubs	no. species	2			
Grasses	no. species	9			
Forbs	no. species	17			
Large eucalypts	no. / ha	22			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	40			
Native shrub cover	%	2			
Native perennial grass cover	%	35			
Organic litter cover	%	30			
Coarse woody debris	m / ha	307			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	5	Total	50	28
Litter cover	5	5	Site + landscape	106	73
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	101

Habitat quality score:

6

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.2BC02 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (65/30/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06423; 148.46820
50 m (centre point):	-22.06446; 148.46785
100 m (end point):	-22.06468; 148.46751
Elevation (mAHD):	197
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland on alluvial clay loam
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	18
Tree canopy (EDL) height (m):	18.5
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>C. tessellaris</i> , <i>Vachellia bidwillii</i> , <i>Alphitonia excelsa</i> , <i>Atalaya hemiglauc</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>G. retusifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Petalostigma pubescens</i> , <i>Sida hackettiana</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Atalaya hemiglauc</i> , <i>Acacia excelsa</i> , <i>Abutilon oxycarpum</i> , <i>Eremophila debile</i>	12
Grass spp. richness: <i>Eragrostis sororia</i> , <i>Enteropogon ramosus</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>B. decipiens</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Chrysopogon fallax</i> , <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>Enneapogon avenaceus</i> , <i>Enneapogon sp.</i> , <i>Alloteropsis semialata</i> , <i>Eulalia aurea</i>	14
Forb spp. richness: <i>Pterocaulon redolens</i> , <i>Waltheria indica</i> , <i>Apowollastonia spilanthisoides</i> , <i>Commelina diffusa</i> , <i>Hibiscus sp.</i> , <i>Zornia sp.</i> , <i>Melhania oblongifolia</i> , <i>Phyllanthus virgatus</i> , <i>Achyranthes aspera</i> , <i>Rostellularia adscendens</i> , <i>Calotis cuneifolia</i> , <i>Cyanthillium cinereum</i> , <i>Glycine tomentella</i> , <i>Glycine sp.</i> , <i>Alternanthera denticulata</i> , <i>Cyperus gracilis</i> , <i>Crinum flaccidum</i> , <i>Cyperus sp.</i>	18
Other spp.: <i>Lomandra longifolia</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Gomphrena celosioides</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	48.1			
Shrub canopy cover (100 m canopy intercept)	% cover	9.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	22			
Litter cover (1 m x 1 m plots)	% cover	61			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	370			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	2			
Shrubs	no. species	2			
Grasses	no. species	9			
Forbs	no. species	17			
Large eucalypts	no. / ha	22			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	40			
Native shrub cover	%	2			
Native perennial grass cover	%	35			
Organic litter cover	%	30			
Coarse woody debris	m / ha	307			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	10	Total	50	28
Litter cover	5	3	Site + landscape	106	82
Total	80	71	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	110

Habitat quality score:

7

Site photos



Start point, facing SW



Mid-point, facing north



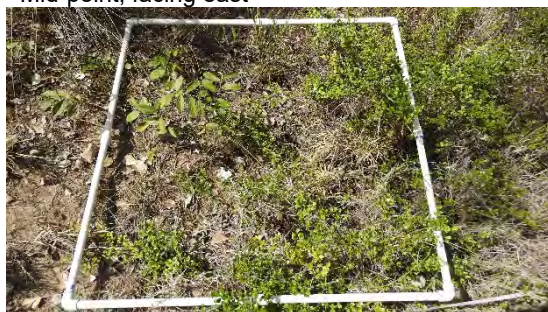
Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC01 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05728; 148.49925
50 m (centre point):	-22.05704; 148.49968
100 m (end point):	Not recorded
Elevation (mAHD):	193
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum with shrubby understory on alluvial terraces
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	16
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. crebra</i> , <i>Corymbia tessellaris</i> , <i>Erythrina vespertilio</i> , <i>Cassia brewsteri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Capparis loranthifolia</i> , <i>Flueggea leucopyrus</i> , <i>Lysicarpus hookeri</i> , <i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Grewia latifolia</i> , <i>Grewia retusifolia</i> , <i>Ficus opposita</i> , <i>Acacia salicina</i> , <i>Petalostigma pubescens</i> , <i>Sida hackettiana</i>	12
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Bothriochloa bladhii</i> , <i>Aristida</i> sp., <i>Heteropogon contortus</i> , <i>Bothriochloa ewartiana</i>	5
Forb spp. richness: <i>Glycine tomentella</i> , <i>Cyperus gracilis</i> , <i>Commelina diffusa</i> , <i>Waltheria indica</i> , <i>Crotalaria</i> sp., <i>Crinum flaccidum</i>	6
Other spp.: <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Sida rhombifolia</i> , <i>Urochloa mosambicensis</i> , <i>Stylosanthes scabra</i>	80

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	18			
Shrub canopy cover (100 m canopy intercept)	% cover	3.1			
Native perennial grass cover (1 m x 1 m plots)	% cover	2			
Litter cover (1 m x 1 m plots)	% cover	11			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	445			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	17
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	25
Litter cover	5	5	Site + Landscape	106	72
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	97

Habitat quality score:

6

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC02 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04375; 148.47647
50 m (centre point):	-22.04361; 148.47679
100 m (end point):	-22.04336; 148.47729
Elevation (mAHD):	205
General Site Description	
Landform	Stream channel
Soil	Sand
Dominant vegetation observed	Forest red gum and River tea tree on a watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	12
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	5
Total large trees/ha:	34
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. populnea</i> , <i>Melaleuca fluviatilis</i> , <i>Corymbia tessellaris</i> , <i>C. clarksoniana</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Lysiphyllum hookeri</i> , <i>Alphitonia excelsa</i>	9
50 x 10 m area	
Shrub spp. richness: <i>Exocarpos latifolius</i> , <i>Flueggea leucopyrus</i> , <i>Lysicarpus hookeri</i> , <i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Diospyros humilis</i> , <i>Atalaya hemiglaucula</i> , <i>Dodonaea sp.</i> , <i>Grewia latifolia</i> , <i>Sida hackettiana</i>	10
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Themeda triandra</i> , <i>Aristida sp.</i> , <i>Heteropogon contortus</i> , <i>Oplismenus aemulus</i> , <i>Panicum effusum</i> , <i>Eulalia aurea</i>	7
Forb spp. richness: <i>Glycine tomentella</i> , <i>Cyperus gracilis</i> , <i>Ipomoea sp.</i> , <i>Desmodium macrocarpum</i> , <i>Achyranthes aspera</i> , <i>Commelina diffusa</i> , <i>Glycine tabacina</i> , <i>Rhynchosia minima</i>	8
Other spp.: <i>Lomandra longifolia</i> , <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	3
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Emilia sonchifolia</i> , <i>Sida rhombifolia</i> , <i>Tridax procumbens</i> , <i>Malvastrum americanum</i> , <i>Bothriochloa pertusa</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	71			
Shrub canopy cover (100 m canopy intercept)	% cover	16.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	16			
Litter cover (1 m x 1 m plots)	% cover	50			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	500			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	19
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	15	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	0	Total	50	38
Litter cover	5	3	Site + Landscape	106	79
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	117

Habitat quality score:

8

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC03 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.03214; 148.46191
50 m (centre point):	-22.03231; 148.46239
100 m (end point):	-22.03252; 148.46280
Elevation (mAHD):	212
General Site Description	
Landform	Stream channel
Soil	Sand
Dominant vegetation observed	Forest red gum and River tea tree on a watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	2
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	25
Total large trees/ha:	54
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. crebra</i> , <i>E. populnea</i> , <i>Melaleuca fluviatilis</i> , <i>Corymbia tessellaris</i> , <i>C. clarksoniana</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Lysiphyllum hookeri</i> , <i>Cassia brewsteri</i>	10
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>Flueggea leucopyrus</i> , <i>Grewia latifolia</i> , <i>Acalypha eremorum</i> , <i>Petalostigma pubescens</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Diospyros humilis</i> , <i>Bursaria incana</i> , <i>Acacia rhodoxylon</i>	19
Grass spp. richness: <i>Themeda avenacea</i> , <i>Themeda triandra</i> , <i>Arundinella nepalensis</i> , <i>Heteropogon contortus</i> , <i>Eragrostis sororia</i> , <i>Eragrostis elongata</i> , <i>Dinebra decipiens</i> , <i>Panicum sp.</i> , <i>Sporobolus creber</i>	9
Forb spp. richness: <i>Glycine tomentella</i> , <i>Phyllanthus virgatus</i> , <i>Pratia concolor</i> , <i>Ipomoea sp.</i>	4
Other spp.: <i>Lomandra longifolia</i> , <i>Eustrephus latifolius</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Solanum seafortianum</i> , <i>Senna occidentalis</i> , <i>Opuntia tomentosa</i> , <i>Stylosanthes scabra</i> , <i>Melochia pyramidata</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	40			
Shrub canopy cover (100 m canopy intercept)	% cover	20.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	16			
Litter cover (1 m x 1 m plots)	% cover	13			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	177			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	19
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	15	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	5	Total	50	38
Litter cover	5	5	Site + Landscape	106	90
Total	80	71	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	128

Habitat quality score:

8

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC04 – Koala habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.25	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16444; 148.37341
50 m (centre point):	-22.16448; 148.37302
100 m (end point):	-22.16464; 148.37254
Elevation (mAHD):	177
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum on alluvial terraces and banks
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	6
Total large trees/ha:	30
Tree canopy (EDL) height (m):	37
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Casuarina cunninghamiana</i> , <i>Corymbia tessellaris</i> , <i>Ficus opposita</i> , <i>Acacia salicina</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Melaleuca linariifolia</i> , <i>Lysiphyllum hookeri</i>	2
Grass spp. richness: <i>Cynodon dactylon</i>	1
Forb spp. richness: <i>Ipomoea sp.</i> , <i>Pratia concolor</i>	2
Other spp.: <i>Eustrephus latifolius</i>	1
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Lantana camara</i> , <i>Sida rhombifolia</i> , <i>Urochloa mosambicensis</i> , <i>Macroptilium purpureum</i> , <i>Scoparia dulcis</i> , <i>Passiflora foetida</i> , <i>Erigeron bonariensis</i> , <i>Leucas lavandulifolia</i> , <i>Calyptocarpus vialis</i> , <i>Bothriochloa pertusa</i> , <i>Parthenium hysterophorus</i>	90

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	77.5			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	2.5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	24
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	0	Site location	5	4
Weed cover	10	0	Total	50	28
Litter cover	5	3	Site + Landscape	106	65.5
Total	80	41.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	93.5

Habitat quality score:

6

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



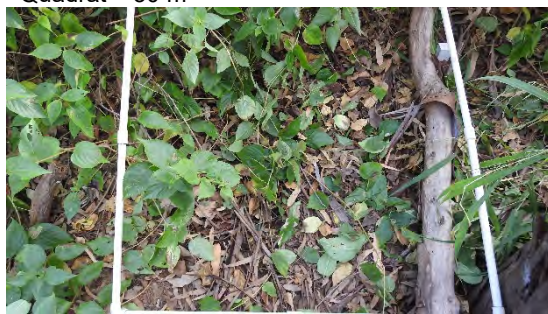
Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC05 – Koala habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1/11.3.1b (65/20/10/5)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.27048; 148.44382
50 m (centre point):	-22.27045; 148.44337
100 m (end point):	-22.27041; 148.44290
Elevation (mAHD):	174
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum on flood channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	11
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	24
Tree canopy (EDL) height (m):	27
Sub-canopy height (m):	14
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia clarksoniana</i> , <i>Corymbia tessellaris</i> , <i>Acacia salicina</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Cassia brewsteri</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Grewia latifolia</i>	4
Grass spp. richness: <i>Capillipedium spicigerum</i> , <i>Eragrostis elongata</i> , <i>Cynodon dactylon</i> , <i>Dichanthium sp.</i> , <i>Eriochloa sp.</i> , <i>Aristida sp.</i> , <i>Digitaria sp.</i>	7
Forb spp. richness: <i>Aeschynomene indicum</i> , <i>Basilicum polystachion</i> , <i>Cyperus sp.</i> , <i>Cyanthillium cinereum</i> , <i>Crotalaria sp.</i> , <i>Sida sp.</i> , <i>Juncus sp.</i> , <i>Rhynchosia minima</i> , <i>Eleocharis blakeana</i> , <i>Euphorbia tannensis</i> , <i>Vittadinia sp.</i> , <i>Euphorbia drummondii</i> .	12
Other spp.:	0
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Lantana camara</i> , <i>Macroptilium atropurpureum</i> , <i>Stylosanthes scabra</i> , <i>Passiflora foetida</i> , <i>Cenchrus ciliaris</i> , <i>Gomphrena celosioides</i> , <i>Parthenium hysterophorus</i> , <i>Melochia pyramidata</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	34.8			
Shrub canopy cover (100 m canopy intercept)	% cover	1.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	52			
Litter cover (1 m x 1 m plots)	% cover	32			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	24
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	15	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	5	Total	50	28
Litter cover	5	3	Site + Landscape	106	97
Total	80	73	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	125

Habitat quality score:

8

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC06 – Koala habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.22520; 148.43639
50 m (centre point):	-22.22548; 148.43603
100 m (end point):	-22.22563; 148.43575
Elevation (mAHD):	178
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum and Tea tree on creek channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	15
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	32
Tree canopy (EDL) height (m):	23
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Melaleuca fluviatilis</i> , <i>Acacia salicina</i> , <i>Lysiphyllum hookeri</i> , <i>Alphitonia excelsa</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Erythrina vespertilio</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Acacia flavescens</i> , <i>Santalum lanceolatum</i> , <i>Acacia leiocalyx</i>	6
Grass spp. richness: <i>Heteropogon contortus</i> , <i>Cynodon dactylon</i> , <i>Enteropogon ramosus</i>	3
Forb spp. richness: <i>Waltheria indica</i>	1
Other spp.:	0
Weed spp. and cover as % of area: <i>Megathyrsus maximus</i> , <i>Lantana camara</i> , <i>Macroptilium atropurpureum</i> , <i>Passiflora foetida</i> , <i>Cenchrus ciliaris</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Erigeron bonariensis</i> , <i>Sida cordifolia</i> , <i>Richardia brasiliensis</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	93.1			
Shrub canopy cover (100 m canopy intercept)	% cover	1.7			
Native perennial grass cover (1 m x 1 m plots)	% cover	3			
Litter cover (1 m x 1 m plots)	% cover	27			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	375			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	2.5	Total:	26	5
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	15	Mobility	10	4
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	22
Litter cover	5	5	Site + Landscape	106	64.5
Total	80	59.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	86.5

Habitat quality score:

6

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC01 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06212; 148.46582
50 m (centre point):	-22.06168; 148.46599
100 m (end point):	-22.06133; 148.46613
Elevation (mAHD):	201
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Ventilago viminalis</i> , <i>Eucalyptus tereticornis</i> , <i>Acacia salicina</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Carissa ovata</i> , <i>Acacia oswaldii</i> , <i>Atalaya hemiglauc</i> , <i>Capparis lasiantha</i> , <i>Ehretia membranifolia</i> , <i>Diospyros humilis</i> , <i>Capparis loranthifolia</i> , <i>Psyrax oleifolius</i>	11
Grass spp. richness: <i>Aristida calycina</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis brownii</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Evolvulus alsinoides</i> , <i>Alternanthera sp.</i> , <i>Galactia tenuifolia</i> , <i>Cyperus gracilis</i> , <i>Fimbristylis dichotoma</i>	6
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i> , <i>Malvastrum americanum</i>	80

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	21.9			
Shrub canopy cover (100 m canopy intercept)	% cover	8.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	4			
Litter cover (1 m x 1 m plots)	% cover	37			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	360			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	0	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	21
Litter cover	5	5	Site + landscape	106	61
Total	80	43	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	82

Habitat quality score:

5

Site photos



Start point, facing NNE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC03 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06037; 148.47212
50 m (centre point):	-22.06082; 148.47223
100 m (end point):	-22.06123; 148.47238
Elevation (mAHD):	196
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	7
Sub-canopy height (m):	4
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>Acacia salicina</i> , <i>Vachellia bidwillii</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Vachellia bidwillii</i> , <i>Petalostigma pubescens</i> , <i>Myoporum acuminatum</i> , <i>Denhamia cunninghamii</i>	7
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis sororia</i> , <i>Eragrostis brownii</i> , <i>Panicum effusum</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Evolvulus alsinoides</i> , <i>Polygala sp.</i>	3
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i>	60

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	25.3			
Shrub canopy cover (100 m canopy intercept)	% cover	1.1			
Native perennial grass cover (1 m x 1 m plots)	% cover	1.4			
Litter cover (1 m x 1 m plots)	% cover	15			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	270			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	1
Large trees	15	0	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	21
Litter cover	5	5	Site + landscape	106	60
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	81

Habitat quality score:

5

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC05 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06441; 148.48267
50 m (centre point):	-22.06418; 148.48227
100 m (end point):	-22.06395; 148.48183
Elevation (mAHD):	196
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness:	3
<i>Eucalyptus populnea</i> , <i>Atalaya hemiglauc</i> , <i>Acacia salicina</i> ,	
50 x 10 m area	
Shrub spp. richness: <i>Carissa ovata</i> , <i>Atalaya hemiglauc</i> , <i>Ventilago viminalis</i> , <i>Capparis umbonata</i> , <i>Alectryon oleifolius</i> , <i>Cassia brewsteri</i> , <i>Acacia salicina</i> , <i>Eremophila mitchellii</i> , <i>Flindersia dissosperma</i> , <i>Ehretia membranifolia</i> , <i>Acacia oswaldii</i> , <i>Grevillea striata</i> , <i>Denhamia cunninghamii</i>	13
Grass spp. richness: <i>Aristida calycina</i> , <i>Bothriochloa bladhii</i> , <i>Eragrostis sp.</i> , <i>Enteropogon ramosus</i> , <i>Chrysopogon fallax</i> , <i>Panicum effusum</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Cyperus sp.</i> , <i>Glycine sp.</i> , <i>Melhanian oblongifolia</i> , <i>Nyssanthus erecta</i> , <i>Fimbristylis dichotoma</i> , <i>Alternanthera denticulata</i> , <i>Uident</i> , <i>Rhynchosia minima</i>	9
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pertusa</i> , <i>Stylosanthes scabra</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	10.2			
Shrub canopy cover (100 m canopy intercept)	% cover	6.5			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	16			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	305			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	16
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	0	Quality of shelter	10	1
Large trees	15	0	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	17
Litter cover	5	5	Site + landscape	106	58
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	75

Habitat quality score:

5

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC06 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05447; 148.48108
50 m (centre point):	-22.05491; 148.481
100 m (end point):	-22.05537; 148.48093
Elevation (mAHD):	207
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. cambageana</i> ,	2
50 x 10 m area	
Shrub spp. richness: <i>Carissa ovata</i> , <i>Ventilago viminalis</i> , <i>Cassia brewsteri</i> , <i>Acacia excelsa</i> , <i>Eremophila mitchellii</i> , <i>Acacia oswaldii</i> , <i>Denhamia cunninghamii</i> , <i>Capparis lasiantha</i> , <i>Psydrax oleifolius</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>A. personata</i> , <i>Chrysopogon fallax</i>	4
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Sida rohlenae</i> , <i>Melhania oblongifolia</i> , <i>Evolvulus alsinoides</i> , <i>Waltheria indica</i> , <i>Pterocaulon redolens</i>	6
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pertusa</i> , <i>Opuntia tomentosa</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	9.1			
Shrub canopy cover (100 m canopy intercept)	% cover	1.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	24			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	1
Large trees	15	0	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	21
Litter cover	5	5	Site + landscape	106	55
Total	80	39	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	76

Habitat quality score:

5

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC07 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06027; 148.47829
50 m (centre point):	-22.06006; 148.47871
100 m (end point):	-22.05988; 148.47914
Elevation (mAHD):	205
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. cambageana</i> , <i>Acacia salicina</i> , <i>Corymbia clarksoniana</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Owenia acidula</i> , <i>Grewia latifolia</i> , <i>Melaleuca nervosa</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Eragrostis sp.</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa bladhii</i>	7
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Calotis cuneifolia</i> , <i>Evolvulus alsinoides</i> , <i>Waltheria indica</i>	4
Other spp.:	
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Malvastrum americanum</i> , <i>Stylosanthes scabra</i> , <i>Sida spinescens</i> , <i>Scoparia dulcis</i> , <i>Harrisia martinii</i>	35

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	17.4			
Shrub canopy cover (100 m canopy intercept)	% cover	1.4			
Native perennial grass cover (1 m x 1 m plots)	% cover	3.8			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	465			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	0	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	17
Litter cover	5	3	Site + landscape	106	58
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	75

Habitat quality score:

5

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC08 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07139; 148.46609
50 m (centre point):	-22.07178; 148.46594
100 m (end point):	-22.07220; 148.46577
Elevation (mAHD):	209
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	7
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Corymbia clarksoniana</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Vachellia bidwillii</i> , <i>Grewia retusifolia</i> , <i>Atalaya hemiglaucula</i> , <i>Acacia salicina</i> , <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Capparis lasiantha</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Panicum effusum</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa bladhii</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Fimbristylis dichotoma</i> , <i>Nyssanthus erecta</i> , <i>Waltheria indica</i>	4
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i>	30

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	15.5			
Shrub canopy cover (100 m canopy intercept)	% cover	4			
Native perennial grass cover (1 m x 1 m plots)	% cover	6			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	625			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	0	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	17
Litter cover	5	5	Site + landscape	106	62
Total	80	48	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	79

Habitat quality score:

5

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



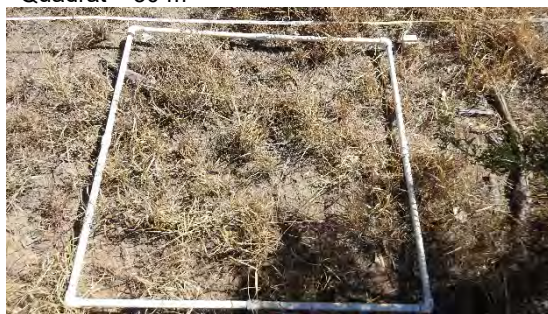
Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC09 – Koala habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07333; 148.45364
50 m (centre point):	-22.07287; 148.45351
100 m (end point):	-22.07251; 148.45338
Elevation (mAHD):	206
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	6.5
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Corymbia clarksoniana</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Petalostigma pubescens</i> , <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Capparis lasiantha</i>	8
Grass spp. richness: <i>Aristida calycina</i> , <i>Panicum effusum</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa sp.</i> , <i>Enteropogon acicularis</i> , <i>Enneapogon avenaceus</i>	8
Forb spp. richness: <i>Alternanthera sp.</i> , <i>Phyllanthus virgatus</i> , <i>Fimbristylis dichotoma</i> , <i>Sida sp.</i>	4
Other spp.:	
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Bothriochloa pertusa</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	1.5			
Shrub canopy cover (100 m canopy intercept)	% cover	13.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	8			
Litter cover (1 m x 1 m plots)	% cover	29			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	800			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	12
Tree canopy cover	5	0	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	0	Mobility	10	4
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	14
Litter cover	5	5	Site + landscape	106	50
Total	80	38	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	64

Habitat quality score:

4

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.1BC01 – OS habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1/11.3.1b (65/20/10/5)	Observed RE: 11.3.1b
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.26894; 148.45682
50 m (centre point):	-22.26907; 148.45728
100 m (end point):	-22.26918; 148.45772
Elevation (mAHD):	169
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Coolabah on deep gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	5
Total large trees/ha:	10
Tree canopy (EDL) height (m):	19
Sub-canopy height (m):	12
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Eucalyptus coolabah</i> , <i>E. populnea</i> , <i>Lysiphyllum hookeri</i> , <i>Alectryon oleifolius</i> , <i>Acacia excelsa</i> , <i>Corymbia dallachiana</i>	7
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Atalaya hemiglaucula</i> , <i>Ehretia membranifolia</i> , <i>Alectryon diversifolius</i> , <i>L. hookeri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Abutilon oxycarpum</i>	7
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Cynodon dactylon</i> , <i>Paspalidium</i> sp., <i>Bothriochloa bladhii</i> , <i>Microlaena stipoides</i> , <i>Eragrostis</i> sp., <i>Eragrostis elongata</i>	7
Forb spp. richness: <i>Cyperus</i> sp., <i>Fimbristylis dichotoma</i> , <i>Alternanthera denticulata</i> , <i>Cyperus gracilis</i> , <i>Sida</i> sp., <i>Basilicum polystachion</i> , <i>Polygonum</i> sp., <i>Pterocaulon redolens</i> , <i>Heliotropium ovalifolium</i>	9
Other spp.: <i>Eustrephus latifolius</i>	1
Weed spp. and cover as % of area: <i>Malvastrum americanum</i> , <i>Harrisia martinii</i> , <i>Urochloa mosambicensis</i> , <i>Heliotropium indicum</i> , <i>Erigeron bonariensis</i> , <i>Megathyrsus maximus</i> , <i>Bidens pilosa</i> , <i>Abutilon guineense</i> , <i>Lantana camara</i> , <i>Parthenium hysterophorus</i> , <i>Stylosanthes scabra</i> , <i>Amaranthus</i> sp.	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	58.5			
Shrub canopy cover (100 m canopy intercept)	% cover	4.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	2			
Litter cover (1 m x 1 m plots)	% cover	48			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	255			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	5			
Grasses	no. species	4			
Forbs	no. species	8			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	28			
Tree canopy median height	m	14			
Tree canopy cover	%	29			
Native shrub cover	%	8			
Native perennial grass cover	%	8			
Organic litter cover	%	34			
Coarse woody debris	m / ha	1752			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	8
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	5	Mobility	10	7
Fallen woody material	5	2	Site location	5	4
Weed cover	10	0	Total	50	38
Litter cover	5	5	Site + landscape	106	59
Total	80	51	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	97

Habitat quality score (measured):

6

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC01 – OS habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 03/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.4.9	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17759; 148.5372
50 m (centre point):	-22.17736; 148.53679
100 m (end point):	-22.1771; 148.53641
Elevation (mAHD):	180
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Advanced Brigalow and Yellowwood regrowth on shallow gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Acacia argyrodendron</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>A. harpophylla</i> , <i>Atalaya hemiglauca</i> , <i>Maireana microphylla</i> , <i>Myoporum acuminatum</i> , <i>Eremophila debile</i> , <i>Abutilon oxycarpum</i>	6
Grass spp. richness: <i>Sporobolus caroli</i> , <i>S. actinocladius</i> , <i>Paspalidium caespitosum</i> , <i>Bothriochloa bladhii</i> , <i>Diplachne fusca</i> var. <i>fusca</i> , <i>Enteropogon acicularis</i> , <i>Astrebla lappacea</i> , <i>Eragrostis lacunaria</i> , <i>Eragrostis parviflora</i> , <i>Sporobolus creber</i>	10
Forb spp. richness: <i>Cyperus</i> sp., <i>Fimbristylis dichotoma</i> , <i>Alternanthera denticulata</i> , <i>Abutilon</i> sp., <i>Sida</i> sp.	5
Other spp.: <i>Marsdenia australis</i> , <i>Clematicissus opaca</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	52.2			
Shrub canopy cover (100 m canopy intercept)	% cover	2.7			
Native perennial grass cover (1 m x 1 m plots)	% cover	11			
Litter cover (1 m x 1 m plots)	% cover	41			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	10			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	7
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	1
Native perennial grass cover	5	3	Quality of shelter	10	5
Large trees	15	0	Mobility	10	4
Fallen woody material	5	0	Site location	5	0
Weed cover	10	10	Total	50	17
Litter cover	5	5	Site + landscape	106	55
Total	80	48	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	72

Habitat quality score:

5

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC02 – ornamental snake habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 03/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.4.9/11.5.3	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17306; 148.53587
50 m (centre point):	-22.17325; 148.53633
100 m (end point):	-22.17344; 148.53674
Elevation (mAHD):	183
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Advanced Brigalow regrowth on shallow gilgai cracking clays
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Eucalyptus populnea</i> , <i>Acacia argyrodendron</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Acacia harpophylla</i> , <i>Carissa ovata</i> , <i>Eremophila mitchellii</i> , <i>Atalaya hemiglauca</i> , <i>Abutilon oxycarpum</i>	5
Grass spp. richness: <i>Aristida queenslandicus</i> , <i>Sporobolus caroli</i> , <i>Bothriochloa bladhii</i> , <i>Paspalidium caespitosum</i> , <i>Cymbopogon queenslandicus</i> , <i>Enteropogon ramosus</i> , <i>Sporobolus actinocladus</i>	7
Forb spp. richness: <i>Nyssanthes erecta</i> , <i>Cyperus gracilis</i>	2
Other spp.: <i>Clematicissus opaca</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Malvastrum americanum</i>	<5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	43.9			
Shrub canopy cover (100 m canopy intercept)	% cover	16.5			
Native perennial grass cover (1 m x 1 m plots)	% cover	6			
Litter cover (1 m x 1 m plots)	% cover	58			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	7
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	0	Mobility	10	7
Fallen woody material	5	0	Site location	5	0
Weed cover	10	10	Total	50	20
Litter cover	5	5	Site + landscape	106	53
Total	80	46	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	73

Habitat quality score:

5

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC03 – OS habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 05/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.4.9/11.4.8 (70/30)	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04496; 148.46529
50 m (centre point):	-22.04538; 148.46553
100 m (end point):	-22.04577; 148.46568
Elevation (mAHD):	215
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Belah with dense Yellowwood understory on clay plain
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	13
Total large trees/ha:	26
Tree canopy (EDL) height (m):	19
Sub-canopy height (m):	11
Emergent height (m):	NA
Total tree species richness: <i>Casuarina cristata</i> , <i>Terminalia oblongata</i> , <i>Eucalyptus cambageana</i> , <i>Acacia harpophylla</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Geijera parviflora</i> , <i>Alectryon diversifolius</i> , <i>Carissa ovata</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Enchylaena tomentosa</i> , <i>T. oblongata</i> , <i>Diospyros humilis</i> , <i>C. cristata</i> , <i>Alectryon oleifolius</i> , <i>Flindersia dissosperma</i> , <i>Citrus glauca</i> , <i>Cassia brewsteri</i> , <i>Ehretia membranifolia</i> , <i>Psyrax odorata</i> subsp. <i>buxifolia</i> , <i>Triflorensia ixoroides</i> , <i>Erythroxylum australe</i> , <i>Acacia oswaldii</i> , <i>A. harpophylla</i> , <i>Abutilon oxycarpum</i>	20
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium</i> sp., <i>Ancistrachne uncinulata</i> , <i>Enteropogon ramosus</i> , <i>Cymbopogon queenslandicus</i> , <i>Dichanthium sericeum</i> , <i>Sporobolus actinocladus</i> , <i>Eragrostis</i> sp.	9
Forb spp. richness: <i>Cyanthillium cinereus</i> , <i>Nyssanthus erecta</i>	2
Other spp.: <i>Marsdenia</i> sp., <i>Clematicissus opaca</i> , <i>Jacquemontia paniculata</i>	3
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i>	10

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	48.6			
Shrub canopy cover (100 m canopy intercept)	% cover	47.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	3			
Litter cover (1 m x 1 m plots)	% cover	55			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	610			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	13
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	3	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	5	Total	50	21
Litter cover	5	5	BioCondition: Site + landscape	106	75
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	96

Habitat quality score:

6

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC04 – endangered	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 05/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.4.9/11.4.8 (70/30)	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04486; 148.4621
50 m (centre point):	-22.04445; 148.46205
100 m (end point):	-22.04401; 148.46205
Elevation (mAHD):	218
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Belah with Yellowwood understory on clay plain
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	15
Total large trees/ha:	30
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness: <i>Casuarina cristata</i> , <i>Terminalia oblongata</i> , <i>Eucalyptus cambageana</i> , <i>Geijera parviflora</i> , <i>Flindersia dissosperma</i> , <i>Eremophila mitchellii</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Geijera parviflora</i> , <i>Alectryon diversifolius</i> , <i>Carissa ovata</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Enchylaena tomentosa</i> , <i>T. oblongata</i> , <i>E.</i> <i>mitchellii</i> , <i>Diospyros humilis</i> , <i>Grewia latifolia</i> , <i>C. cristata</i> , <i>Alectryon oleifolius</i> , <i>Pittosporum spinescens</i> , <i>Citrus glauca</i> , <i>Abutilon oxycarpum</i>	15
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium</i> sp., <i>Ancistrachne</i> <i>uncinulata</i> , <i>Enteropogon ramosus</i> , <i>Aristida queenslandicus</i> , <i>Eragrostis</i> <i>sororia</i> , <i>Enneapogon</i> sp., <i>Panicum effusum</i>	9
Forb spp. richness: <i>Cyperus gracilis</i>	1
Other spp.: <i>Cymbidium canaliculatum</i> , <i>Parsonsia</i> sp., <i>Secamone ellipticum</i> , <i>Jacquemontia paniculata</i>	4
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Opuntia tomentosa</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	43.8			
Shrub canopy cover (100 m canopy intercept)	% cover	47.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	12.			
Litter cover (1 m x 1 m plots)	% cover	37			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	345			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	13
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	3	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	2	Site location	5	1
Weed cover	10	10	Total	50	21
Litter cover	5	5	Site + landscape	106	79
Total	80	66	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	100

Habitat quality score:

6

Site photos



Start point, facing N



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC05 – ornamental snake habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 20/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14432; 148.37566
50 m (centre point):	-22.14397; 148.37595
100 m (end point):	-22.14364; 148.37628
Elevation (mAHD):	187
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Dawson gum on shallow gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	4
Total large trees/ha:	8
Tree canopy (EDL) height (m):	10
Sub-canopy height (m):	5
Emergent height (m):	15
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum carronii</i> , <i>L. hookeri</i> , <i>Eucalyptus cambageana</i> , <i>E. populnea</i> , <i>Eremophila mitchellii</i>	7
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Geijera parviflora</i> , <i>Atalaya hemiglauca</i> , <i>Alectryon oleifolius</i> , <i>A. diversifolius</i> , <i>Carissa ovata</i> , <i>Ehretia membranifolia</i> , <i>L. hookeri</i> , <i>L. carronii</i> , <i>Apophyllum anomalum</i> , <i>Denhamia cunninghamii</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Enchylaena tomentosa</i> , <i>Maireana microphylla</i> , <i>Abutilon oxycarpum</i>	15
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium</i> sp., <i>Ancistrachne uncinulata</i> , <i>Enteropogon acicularis</i> , <i>Aristida queenslandicus</i>	6
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Cheilanthes sieberi</i> , <i>Nyssanthes erecta</i> , <i>Einadia nutans</i> , <i>Salsola australis</i> , <i>Boerhavia</i> sp.	6
Other spp.: <i>Tinospora smilacina</i> , <i>Parsonsia</i> sp., <i>Clematicissus opaca</i> , <i>Marsdenia australis</i>	4
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Urochloa mosambicensis</i> , <i>Opuntia tomentosa</i> , <i>Parthenium hysterophorus</i> , <i>Portulaca oleracea</i>	40

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	12.7			
Shrub canopy cover (100 m canopy intercept)	% cover	15.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	4			
Litter cover (1 m x 1 m plots)	% cover	26			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	425			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	2
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	5	Mobility	10	10
Fallen woody material	5	2	Site location	5	4
Weed cover	10	3	Total	50	36
Litter cover	5	5	Site + landscape	106	56
Total	80	54	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	92

Habitat quality score:

6

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 4.9BC06 – OS habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 20/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14224; 148.37689
50 m (centre point):	-22.14192; 148.37656
100 m (end point):	-22.14161; 148.37622
Elevation (mAHD):	190
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Yellowwood on medium gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	2
Total large trees/ha:	4
Tree canopy (EDL) height (m):	10
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum hookeri</i> , <i>Atalaya hemiglauc</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Geijera parviflora</i> , <i>Atalaya hemiglauc</i> , <i>Alectryon diversifolius</i> , <i>Carissa ovata</i> , <i>Lysiphyllum carronii</i> , <i>Apophyllum anomalum</i> , <i>Pittosporum spinescens</i> , <i>Eremophila mitchellii</i> , <i>E. deserti</i> , <i>Solanum elachophyllum</i> , <i>Enchylaena tomentosa</i> , <i>Abutilon oxycarpum</i>	13
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Diplachne fusca</i> var. <i>fusca</i> , <i>Walwhalleya proluta</i> , <i>Paspalidium caespitosum</i> , <i>Sporobolus actinocladus</i> , <i>Astrebula lappacea</i>	6
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Cheilanthes sieberi</i> , <i>Ammannia multiflora</i> , <i>Alternanthera denticulata</i> , <i>Cyperus</i> sp., <i>Dipteracanthus australasicus</i> , <i>Sclerolaena tetracuspis</i> , <i>Basilicum polystachion</i> , <i>Centipeda minima</i> , <i>Rorippa eustylis</i> , <i>Pseudognaphalium luteoalbum</i>	11
Other spp.: <i>Clematicissus opaca</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Xanthium occidentale</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	31.1			
Shrub canopy cover (100 m canopy intercept)	% cover	15.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	9			
Litter cover (1 m x 1 m plots)	% cover	40			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	500			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	2
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	5	Mobility	10	10
Fallen woody material	5	2	Site location	5	4
Weed cover	10	0	Total	50	41
Litter cover	5	5	Site + landscape	106	51
Total	80	49	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	92

Habitat quality score:

6

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: OSBC01 – OS habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.3.1 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.12360; 148.38094
50 m (centre point):	-22.12402; 148.38083
100 m (end point):	Not recorded
Elevation (mAHD):	189
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow regrowth on moderate gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	3
Sub-canopy height (m):	
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Lysiphyllum carronii</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Terminalia oblongata</i> , <i>Apophyllum anomalum</i> , <i>Carissa ovata</i> , <i>Enchylaena tomentosa</i> , <i>Abutilon oxycarpum</i>	5
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Bothriochloa sp.</i> , <i>Dichanthium sericeum</i>	3
Forb spp. richness: <i>Alternanthera denticulata</i> , <i>Sesbania cannabina</i> , <i>Rhynchosia minima</i> , <i>Sida rohlenae</i> , <i>Cyperus sp.</i> , <i>Glycine sp.</i> , <i>Ipomoea plebeia</i>	7
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Parthenium hysterophorus</i> , <i>Harrisia martinii</i> , <i>Malvastrum americanum</i> , <i>Stylosanthes scabra</i>	80

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	19.5			
Shrub canopy cover (100 m canopy intercept)	% cover	3.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	4			
Litter cover (1 m x 1 m plots)	% cover	6			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	50			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	5			
Grasses	no. species	4			
Forbs	no. species	8			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	170			
Tree canopy median height	m	14			
Tree canopy cover	%	29			
Native shrub cover	%	8			
Native perennial grass cover	%	8			
Organic litter cover	%	34			
Coarse woody debris	m / ha	1752			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	3	Connectivity	5	2
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	12
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	0	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	0	Mobility	10	10
Fallen woody material	5	0	Site location	5	4
Weed cover	10	0	Total	50	41
Litter cover	5	3	Site + landscape	106	43
Total	80	31	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	84

Habitat quality score (percentage):

5

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

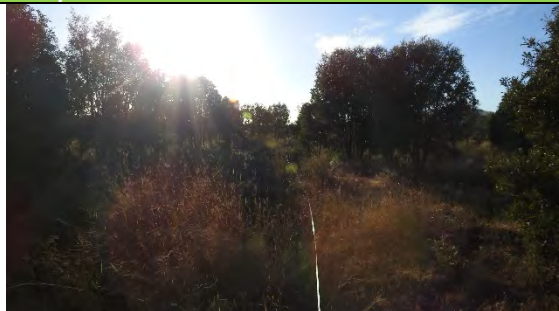
Site: OSBC02 – OS habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 01/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.3.1 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.1601; 148.39546
50 m (centre point):	-22.16004; 148.39594
100 m (end point):	-22.15998; 148.39638
Elevation (mAHD):	182
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Yellowwood regrowth on moderate gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	5
Sub-canopy height (m):	
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum hookeri</i> , <i>Atalaya hemiglauc</i>	4
50 x 10 m area	
Shrub spp. richness:	0
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Cynodon dactylon</i> , <i>Eriochloa procera</i> , <i>Eragrostis elongata</i> , <i>Diplachne fusca</i> var. <i>fusca</i> , <i>Sporobolus caroli</i>	6
Forb spp. richness: <i>Cyperus</i> sp., <i>Centipeda minima</i> , <i>Alternanthera denticulata</i> , <i>Abutilon</i> sp., <i>Aeschynomene indicum</i> , <i>Balsamicum polystachion</i> , <i>Cyperus concinnus</i> , <i>C. exaltatus</i> , <i>Ipomoea plebeia</i> , <i>Sesbania cannabina</i> , <i>Eleocharis pallens</i> , <i>Sida rohlenae</i> , <i>Rorippa eustylis</i>	13
Other spp.:	0
Weed spp. and cover as % of area: <i>Echinochloa colona</i> , <i>Parthenium hysterophorus</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	5			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	14			
Litter cover (1 m x 1 m plots)	% cover	0			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	5			
Grasses	no. species	4			
Forbs	no. species	8			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	170			
Tree canopy median height	m	14			
Tree canopy cover	%	29			
Native shrub cover	%	8			
Native perennial grass cover	%	8			
Organic litter cover	%	34			
Coarse woody debris	m / ha	1752			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	0
Native plant species richness: Shrubs	5	2.5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	12
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	10
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	0	Mobility	10	7
Fallen woody material	5	0	Site location	5	4
Weed cover	10	10	Total	50	38
Litter cover	5	0	Site + landscape	106	54.5
Total	80	42.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	92.5

Habitat quality score:

6

Site photos



Start point, facing E



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: OSBC03 – OS habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 01/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.3.1 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14703; 148.38716
50 m (centre point):	-22.14681; 148.38675
100 m (end point):	-22.14659; 148.38632
Elevation (mAHD):	180
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow regrowth on moderate gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	4
Sub-canopy height (m):	
Emergent height (m):	NA
Total tree species richness:	1
<i>Acacia harpophylla</i> ,	
50 x 10 m area	
Shrub spp. richness: <i>Eremophila maculata</i> , <i>Apophyllum anomalum</i> , <i>Enchylaena tomentosa</i> , <i>Abutilon oxycarpum</i>	4
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Sporobolus actinocladus</i> , <i>Astrelba lappacea</i> , <i>Sporobolus disjunctus</i> , <i>Dinebra decipiens</i> , <i>Sporobolus caroli</i> , <i>Elytrophorus</i> <i>spicatus</i> , <i>Paspalidium caespitosum</i> , <i>Walwhalleya proluta</i>	9
Forb spp. richness: <i>Cyperus sp.</i> , <i>Sclerolaena tetracuspis</i> , <i>Alternanthera denticulata</i> , <i>Balsamicum polystachion</i> , <i>Atriplex muelleri</i> , <i>Sesbania cannabina</i>	8
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Parthenium hysterophorus</i> , <i>Harrisia martinii</i> , <i>Abutilon</i> <i>guineense</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	18.4			
Shrub canopy cover (100 m canopy intercept)	% cover	11.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	25			
Litter cover (1 m x 1 m plots)	% cover	17			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	135			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	5			
Grasses	no. species	4			
Forbs	no. species	8			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	170			
Tree canopy median height	m	14			
Tree canopy cover	%	29			
Native shrub cover	%	8			
Native perennial grass cover	%	8			
Organic litter cover	%	34			
Coarse woody debris	m / ha	1752			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	3	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	12
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	10
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	0	Mobility	10	10
Fallen woody material	5	0	Site location	5	4
Weed cover	10	5	Total	50	41
Litter cover	5	5	Site + landscape	106	61
Total	80	49	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	102

Habitat quality score:

7

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: OSBC04 – OS habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 01/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.3.1 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.15427; 148.37607
50 m (centre point):	-22.15387; 148.37627
100 m (end point):	-22.1535; 148.37653
Elevation (mAHD):	184
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Yellowwood regrowth on moderate gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	6
Sub-canopy height (m):	
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum carronii</i> , <i>Atalaya hemiglaucula</i> , <i>L. hookeri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Carissa ovata</i> , <i>Apophyllum anomalum</i> , <i>Alectryon diversifolius</i> , <i>Ehretia membranifolia</i> , <i>Cassia brewsteri</i> , <i>Enchylaena tomentosa</i>	6
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Eriochloa procera</i> , <i>Paspalidium sp.</i> , <i>Bothriochloa sp.</i> , <i>Walwhalleya proluta</i> , <i>Sporobolus caroli</i> , <i>Eragrostis tenellula</i> , <i>Dinebra decipiens</i> , <i>Eragrostis speciosa</i>	9
Forb spp. richness: <i>Alternanthera denticulata</i> , <i>Cyperus concinnus</i> , <i>Cyperus bifax</i> , <i>Balsamicum polystachion</i> , <i>Sesbania cannabina</i> , <i>Rorippa eustylis</i> , <i>Centipeda minima</i> , <i>Ammannia multiflora</i> , <i>Nymphoides geminata</i> , <i>Ottelia sp.</i> , <i>Cyperus exaltatus</i> , <i>Cyperus pygmaeus</i> , <i>Cucumis argenteus</i> , <i>Ipomoea plebeia</i> , <i>Cyperus difformis</i> , <i>Glycine sp.</i>	16
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Panicum sp.</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i>	35

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	35.5			
Shrub canopy cover (100 m canopy intercept)	% cover	1.7			
Native perennial grass cover (1 m x 1 m plots)	% cover	11			
Litter cover (1 m x 1 m plots)	% cover	4			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	30			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	5			
Grasses	no. species	4			
Forbs	no. species	8			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	170			
Tree canopy median height	m	14			
Tree canopy cover	%	29			
Native shrub cover	%	8			
Native perennial grass cover	%	8			
Organic litter cover	%	34			
Coarse woody debris	m / ha	1752			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	0	Mobility	10	10
Fallen woody material	5	0	Site location	5	4
Weed cover	10	5	Total	50	41
Litter cover	5	3	Site + landscape	106	59
Total	80	45	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	100

Habitat quality score (percentage):

6

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: OSBC05 – OS habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 01/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.3.1 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.0931; 148.36674
50 m (centre point):	-22.09345; 148.36705
100 m (end point):	-22.09384; 148.36732
Elevation (mAHD):	200
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Yellowwood regrowth on moderate gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	4.5
Sub-canopy height (m):	
Emergent height (m):	NA
Total tree species richness:	3
<i>Acacia harpophylla</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum carronii</i>	
50 x 10 m area	
Shrub spp. richness:	4
<i>Capparis lasiantha</i> , <i>Apophyllum anomalum</i> , <i>Alectryon diversifolius</i> , <i>Enchylaena tomentosa</i>	
Grass spp. richness:	4
<i>Leptochloa digitata</i> , <i>Eriochloa procera</i> , <i>Paspalidium caespitosum</i> , <i>Eragrostis</i> sp.	
Forb spp. richness:	7
<i>Alternanthera denticulata</i> , <i>Cyperus concinnus</i> , <i>Cyperus bifax</i> , <i>Balsamicum polystachion</i> , <i>Fimbristylis</i> sp., <i>Sesbania</i> sp., <i>Dipteracanthus australasicus</i>	
Other spp.:	
Weed spp. and cover as % of area:	10
<i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Malvastrum americanum</i> , <i>Abutilon guineense</i> , <i>Parthenium hysterophorus</i>	

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	42.9			
Shrub canopy cover (100 m canopy intercept)	% cover	1.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	21			
Litter cover (1 m x 1 m plots)	% cover	21			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	5			
Grasses	no. species	4			
Forbs	no. species	8			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	170			
Tree canopy median height	m	14			
Tree canopy cover	%	29			
Native shrub cover	%	8			
Native perennial grass cover	%	8			
Organic litter cover	%	34			
Coarse woody debris	m / ha	1752			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	0
Native plant species richness: Shrubs	5	3	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	10
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	0	Mobility	10	10
Fallen woody material	5	0	Site location	5	4
Weed cover	10	5	Total	50	41
Litter cover	5	5	Site + landscape	106	57
Total	80	47	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	98

Habitat quality score (percentage):

6

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: OSBC06 – OS habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 01/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.4.9 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.09861; 148.38159
50 m (centre point):	-22.09867; 148.38203
100 m (end point):	-22.09877; 148.38254
Elevation (mAHD):	201
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow regrowth on moderate gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	5.5
Sub-canopy height (m):	
Emergent height (m):	NA
Total tree species richness:	3
<i>Acacia harpophylla</i> , <i>Atalaya hemiglaucula</i> , <i>Eucalyptus cambageana</i>	
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Apophyllum anomalum</i> , <i>Citrus glauca</i> , <i>Enchylaena tomentosa</i> , <i>Maireana microphylla</i>	5
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Dinebra decipiens</i> , <i>Dichanthium sericeum</i> , <i>Digitaria sp.</i> , <i>Eriochloa procera</i> , <i>Enteropogon ramosus</i> , <i>Eragrostis sp.</i>	7
Forb spp. richness: <i>Alternanthera denticulata</i> , <i>Cyperus bifax</i> , <i>Cyperus gracilis</i> , <i>Glycine sp.</i> , <i>Ipomoea plebeia</i> , <i>Sida sp.</i>	6
Other spp.: <i>Clematicissus opaca</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Portulaca oleracea</i> , <i>Harrisia martinii</i> , <i>Malvastrum americanum</i> , <i>Abutilon guineense</i> , <i>Urochloa mosambicensis</i>	65

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	26			
Shrub canopy cover (100 m canopy intercept)	% cover	1.4			
Native perennial grass cover (1 m x 1 m plots)	% cover	3			
Litter cover (1 m x 1 m plots)	% cover	14			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	3	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	10
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	0	Site location	5	4
Weed cover	10	0	Total	50	31
Litter cover	5	0	Site + landscape	106	41
Total	80	31	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	72

Habitat quality score:

5

Site photos



Start point, facing E



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: OSBC07 – OS habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.4.9 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.13950; 148.37534
50 m (centre point):	-22.13906; 148.37523
100 m (end point):	-22.13861; 148.37517
Elevation (mAHD):	188
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow regrowth on shallow gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	2.5
Sub-canopy height (m):	
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Cassia brewsteri</i> , <i>Lysiphyllum carronii</i> , <i>Atalaya hemiglauc</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Apophyllum anomalum</i> , <i>Alectryon diversifolius</i> , <i>Citrus glauca</i> , <i>Maireana microphylla</i> , <i>Atalaya hemiglauc</i>	5
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Sporobolus disjunctus</i> , <i>Dichanthium sericeum</i> , <i>Walwhalleya proluta</i> , <i>Sporobolus caroli</i> , <i>Digitaria sp.</i> , <i>Dinebra decipiens</i>	7
Forb spp. richness: <i>Alternanthera denticulata</i> , <i>Cyperus concinnus</i> , <i>Cyperus sp.</i> , <i>Balsamicum polystachion</i> , <i>Sesbania cannabina</i> , <i>Centipeda minima</i> , <i>Ammannia multiflora</i> , <i>Ipomoea plebeia</i> , <i>Sclerolaena tetracuspis</i> , <i>Glycine sp.</i> , <i>Otelia sp.</i>	11
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Opuntia tomentosa</i> , <i>Parthenium hysterophorus</i>	90

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	2			
Shrub canopy cover (100 m canopy intercept)	% cover	8.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	2			
Litter cover (1 m x 1 m plots)	% cover	9			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	70			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	3	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	10
Tree canopy cover	5	0	Habitat:		
Tree canopy height	5	0	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	0	Mobility	10	10
Fallen woody material	5	0	Site location	5	4
Weed cover	10	0	Total	50	41
Litter cover	5	3	Site + landscape	106	40
Total	80	30	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	81

Habitat quality score (percentage):

5

Site photos



Start point, facing N



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: OSBC08 – OS habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 20/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.4.9 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14031; 148.39023
50 m (centre point):	-22.14066; 148.39058
100 m (end point):	-22.14094; 148.39091
Elevation (mAHD):	183
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow, Red bauhinia and Yellowwood regrowth on gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	3.5
Sub-canopy height (m):	
Emergent height (m):	NA
Total tree species richness:	3
<i>Acacia harpophylla</i> , <i>Lysiphyllum carronii</i> , <i>Terminalia oblongata</i>	
50 x 10 m area	
Shrub spp. richness: <i>Apophyllum anomalum</i> , <i>Alectryon diversifolius</i> , <i>Citrus glauca</i> , <i>Carissa ovata</i> , <i>Enchylaena tomentosa</i> , <i>Eremophila maculata</i> , <i>Abutilon oxycarpum</i>	7
Grass spp. richness: <i>Diplachne fusca</i> var. <i>fusca</i> , <i>Sporobolus creber</i> , <i>Sporobolus caroli</i> , <i>Enteropogon acicularis</i> , <i>Astrebula lappacea</i> , <i>Bothriochloa bladhii</i> , <i>Sporobolus actinocladius</i> , <i>Paspalidium</i> sp., <i>Eragrostis parviflora</i> , <i>Panicum</i> sp.	10
Forb spp. richness: <i>Cyperus</i> sp., <i>Balsamicum polystachion</i> , <i>Ammannia multiflora</i> , <i>Sclerolaena tetracuspis</i> , <i>Crinum flaccidum</i>	5
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Malvastrum americanum</i>	10

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	28.2			
Shrub canopy cover (100 m canopy intercept)	% cover	19.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	5			
Litter cover (1 m x 1 m plots)	% cover	26			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	70			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	5			
Shrubs	no. species	10			
Grasses	no. species	5			
Forbs	no. species	10			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	45			
Tree canopy median height	m	13			
Tree canopy cover	%	25			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	45			
Coarse woody debris	m / ha	1200			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	0	Mobility	10	10
Fallen woody material	5	0	Site location	5	4
Weed cover	10	5	Total	50	41
Litter cover	5	5	Site + landscape	106	55
Total	80	41	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	96

Habitat quality score:

6

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



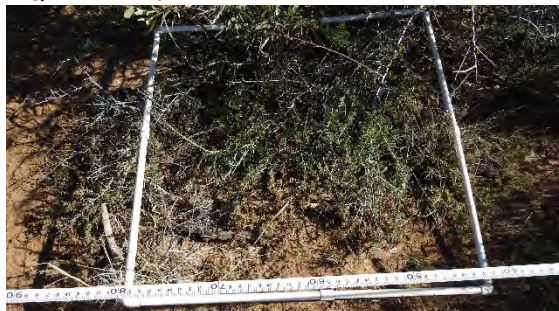
Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.2BC01 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (65/30/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04382; 148.47989
50 m (centre point):	-22.04380; 148.47940
100 m (end point):	Not recorded
Elevation (mAHD):	208
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland with shrubby understory on alluvial clay loam
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	na
Number of large Non-Eucalypt trees:	
Total large trees/ha:	14
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. crebra</i> , <i>Owenia acidula</i> , <i>Eremophila mitchellii</i> , <i>Alectryon oleifolius</i> , <i>Flindersia australis</i> , <i>F. dissosperma</i> , <i>Acacia excelsa</i> , <i>E. populnea</i> x <i>E. crebra</i> .	8
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Petalostigma pubescens</i> , <i>Geijera parviflora</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Capparis loranthifolia</i> , <i>Acacia excelsa</i> , <i>Alectryon oleifolius</i> , <i>Denhamia cunninghamii</i> , <i>Acacia oswaldii</i> , <i>Eremophila debile</i>	13
Grass spp. richness: <i>Eragrostis sororia</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>Enneapogon</i> sp., <i>Themeda triandra</i> , <i>Chrysopogon fallax</i> , <i>Aristida calycina</i> , <i>Aristida</i> sp., <i>Oplismenus</i> sp.	9
Forb spp. richness: <i>Pterocaulon redolens</i> , <i>Waltheria indica</i> , <i>Calotis cuneifolia</i> , <i>Hibiscus sturtii</i> , <i>Phyllanthus virgatus</i> , <i>Achyranthes aspera</i> , <i>Cyperus gracilis</i> , <i>Desmodium macrocarpum</i>	8
Other spp.: <i>Lomandra multiflora</i> , <i>Parsonsia lanceolata</i> , <i>Jacquemontia paniculata</i> , <i>Eustrephus latifolius</i>	5
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i>	10

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	45.8			
Shrub canopy cover (100 m canopy intercept)	% cover	14			
Native perennial grass cover (1 m x 1 m plots)	% cover	10			
Litter cover (1 m x 1 m plots)	% cover	38			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	370			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	2			
Shrubs	no. species	2			
Grasses	no. species	9			
Forbs	no. species	17			
Large eucalypts	no. / ha	22			
Large non-eucalypts	no. / ha	na			
Tree canopy median height	m	18			
Tree canopy cover	%	40			
Native shrub cover	%	2			
Native perennial grass cover	%	35			
Organic litter cover	%	30			
Coarse woody debris	m / ha	307			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	5	Total	50	46
Litter cover	5	5	Site + landscape	106	73
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	119

Habitat quality score:

8

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.2BC02 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (65/30/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06423; 148.46820
50 m (centre point):	-22.06446; 148.46785
100 m (end point):	-22.06468; 148.46751
Elevation (mAHD):	197
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland on alluvial clay loam
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	18
Tree canopy (EDL) height (m):	18.5
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>C. tessellaris</i> , <i>Vachellia bidwillii</i> , <i>Alphitonia excelsa</i> , <i>Atalaya hemiglauc</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>G. retusifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Petalostigma pubescens</i> , <i>Sida hackettiana</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Atalaya hemiglauc</i> , <i>Acacia excelsa</i> , <i>Abutilon oxycarpum</i> , <i>Eremophila debile</i>	12
Grass spp. richness: <i>Eragrostis sororia</i> , <i>Enteropogon ramosus</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>B. decipiens</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Chrysopogon fallax</i> , <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>Enneapogon avenaceus</i> , <i>Enneapogon sp.</i> , <i>Alloteropsis semialata</i> , <i>Eulalia aurea</i>	14
Forb spp. richness: <i>Pterocaulon redolens</i> , <i>Waltheria indica</i> , <i>Apowollastonia spilanthisoides</i> , <i>Commelina diffusa</i> , <i>Hibiscus sp.</i> , <i>Zornia sp.</i> , <i>Melhania oblongifolia</i> , <i>Phyllanthus virgatus</i> , <i>Achyranthes aspera</i> , <i>Rostellularia adscendens</i> , <i>Calotis cuneifolia</i> , <i>Cyanthillium cinereum</i> , <i>Glycine tomentella</i> , <i>Glycine sp.</i> , <i>Alternanthera denticulata</i> , <i>Cyperus gracilis</i> , <i>Crinum flaccidum</i> , <i>Cyperus sp.</i>	18
Other spp.: <i>Lomandra longifolia</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Gomphrena celosioides</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	48.1			
Shrub canopy cover (100 m canopy intercept)	% cover	9.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	22			
Litter cover (1 m x 1 m plots)	% cover	61			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	370			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	2			
Shrubs	no. species	2			
Grasses	no. species	9			
Forbs	no. species	17			
Large eucalypts	no. / ha	22			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	40			
Native shrub cover	%	2			
Native perennial grass cover	%	35			
Organic litter cover	%	30			
Coarse woody debris	m / ha	307			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	10	Total	50	46
Litter cover	5	3	Site + landscape	106	82
Total	80	71	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	128

Habitat quality score:

8

Site photos



Start point, facing SW



Mid-point, facing north



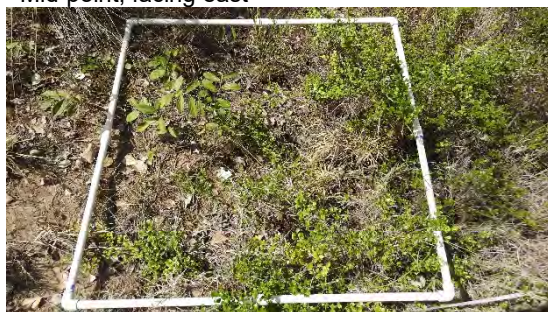
Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC01 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05728; 148.49925
50 m (centre point):	-22.05704; 148.49968
100 m (end point):	Not recorded
Elevation (mAHD):	193
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum with shrubby understory on alluvial terraces
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	16
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. crebra</i> , <i>Corymbia tessellaris</i> , <i>Erythrina vespertilio</i> , <i>Cassia brewsteri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Capparis loranthifolia</i> , <i>Flueggea leucopyrus</i> , <i>Lysicarpus hookeri</i> , <i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Grewia latifolia</i> , <i>Grewia retusifolia</i> , <i>Ficus opposita</i> , <i>Acacia salicina</i> , <i>Petalostigma pubescens</i> , <i>Sida hackettiana</i>	12
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Bothriochloa bladhii</i> , <i>Aristida</i> sp., <i>Heteropogon contortus</i> , <i>Bothriochloa ewartiana</i>	5
Forb spp. richness: <i>Glycine tomentella</i> , <i>Cyperus gracilis</i> , <i>Commelina diffusa</i> , <i>Waltheria indica</i> , <i>Crotalaria</i> sp., <i>Crinum flaccidum</i>	6
Other spp.: <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Sida rhombifolia</i> , <i>Urochloa mosambicensis</i> , <i>Stylosanthes scabra</i>	80

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	18			
Shrub canopy cover (100 m canopy intercept)	% cover	3.1			
Native perennial grass cover (1 m x 1 m plots)	% cover	2			
Litter cover (1 m x 1 m plots)	% cover	11			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	445			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	17
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	32
Litter cover	5	5	Site + Landscape	106	72
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	104

Habitat quality score:

7

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC02 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04375; 148.47647
50 m (centre point):	-22.04361; 148.47679
100 m (end point):	-22.04336; 148.47729
Elevation (mAHD):	205
General Site Description	
Landform	Stream channel
Soil	Sand
Dominant vegetation observed	Forest red gum and River tea tree on a watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	12
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	5
Total large trees/ha:	34
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. populnea</i> , <i>Melaleuca fluviatilis</i> , <i>Corymbia tessellaris</i> , <i>C. clarksoniana</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Lysiphyllum hookeri</i> , <i>Alphitonia excelsa</i>	9
50 x 10 m area	
Shrub spp. richness: <i>Exocarpos latifolius</i> , <i>Flueggea leucopyrus</i> , <i>Lysicarpus hookeri</i> , <i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Diospyros humilis</i> , <i>Atalaya hemiglauca</i> , <i>Dodonaea sp.</i> , <i>Grewia latifolia</i> , <i>Sida hackettiana</i>	10
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Themeda triandra</i> , <i>Aristida sp.</i> , <i>Heteropogon contortus</i> , <i>Oplismenus aemulus</i> , <i>Panicum effusum</i> , <i>Eulalia aurea</i>	7
Forb spp. richness: <i>Glycine tomentella</i> , <i>Cyperus gracilis</i> , <i>Ipomoea sp.</i> , <i>Desmodium macrocarpum</i> , <i>Achyranthes aspera</i> , <i>Commelina diffusa</i> , <i>Glycine tabacina</i> , <i>Rhynchosia minima</i>	8
Other spp.: <i>Lomandra longifolia</i> , <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	3
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Emilia sonchifolia</i> , <i>Sida rhombifolia</i> , <i>Tridax procumbens</i> , <i>Malvastrum americanum</i> , <i>Bothriochloa pertusa</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	71			
Shrub canopy cover (100 m canopy intercept)	% cover	16.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	16			
Litter cover (1 m x 1 m plots)	% cover	50			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	500			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	19
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	15	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	33
Litter cover	5	3	Site + Landscape	106	79
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	112

Habitat quality score:

7

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC03 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.03214; 148.46191
50 m (centre point):	-22.03231; 148.46239
100 m (end point):	-22.03252; 148.46280
Elevation (mAHD):	212
General Site Description	
Landform	Stream channel
Soil	Sand
Dominant vegetation observed	Forest red gum and River tea tree on a watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	2
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	25
Total large trees/ha:	54
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. crebra</i> , <i>E. populnea</i> , <i>Melaleuca fluviatilis</i> , <i>Corymbia tessellaris</i> , <i>C. clarksoniana</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Lysiphyllum hookeri</i> , <i>Cassia brewsteri</i>	10
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>Flueggea leucopyrus</i> , <i>Grewia latifolia</i> , <i>Acalypha eremorum</i> , <i>Petalostigma pubescens</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Diospyros humilis</i> , <i>Bursaria incana</i> , <i>Acacia rhodoxylon</i>	19
Grass spp. richness: <i>Themeda avenacea</i> , <i>Themeda triandra</i> , <i>Arundinella nepalensis</i> , <i>Heteropogon contortus</i> , <i>Eragrostis sororia</i> , <i>Eragrostis elongata</i> , <i>Dinebra decipiens</i> , <i>Panicum sp.</i> , <i>Sporobolus creber</i>	9
Forb spp. richness: <i>Glycine tomentella</i> , <i>Phyllanthus virgatus</i> , <i>Pratia concolor</i> , <i>Ipomoea sp.</i>	4
Other spp.: <i>Lomandra longifolia</i> , <i>Eustrephus latifolius</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Solanum seafortianum</i> , <i>Senna occidentalis</i> , <i>Opuntia tomentosa</i> , <i>Stylosanthes scabra</i> , <i>Melochia pyramidata</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	40			
Shrub canopy cover (100 m canopy intercept)	% cover	20.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	16			
Litter cover (1 m x 1 m plots)	% cover	13			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	177			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	19
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	15	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	5	Total	50	24
Litter cover	5	5	Site + Landscape	106	90
Total	80	71	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	114

Habitat quality score:

7

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC04 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.25	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16444; 148.37341
50 m (centre point):	-22.16448; 148.37302
100 m (end point):	-22.16464; 148.37254
Elevation (mAHD):	177
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum on alluvial terraces and banks
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	6
Total large trees/ha:	30
Tree canopy (EDL) height (m):	37
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Casuarina cunninghamiana</i> , <i>Corymbia tessellaris</i> , <i>Ficus opposita</i> , <i>Acacia salicina</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Melaleuca linariifolia</i> , <i>Lysiphyllum hookeri</i>	2
Grass spp. richness: <i>Cynodon dactylon</i>	1
Forb spp. richness: <i>Ipomoea</i> sp., <i>Pratia concolor</i>	2
Other spp.: <i>Eustrephus latifolius</i>	1
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Lantana camara</i> , <i>Sida rhombifolia</i> , <i>Urochloa mosambicensis</i> , <i>Macroptilium purpureum</i> , <i>Scoparia dulcis</i> , <i>Passiflora foetida</i> , <i>Erigeron bonariensis</i> , <i>Leucas lavandulifolia</i> , <i>Calyptocarpus vialis</i> , <i>Bothriochloa pertusa</i> , <i>Parthenium hysterophorus</i>	90

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	77.5			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	2.5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	24
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	0	Quality of foraging	10	1
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	0	Site location	5	1
Weed cover	10	0	Total	50	29
Litter cover	5	3	Site + Landscape	106	65.5
Total	80	41.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	94.5

Habitat quality score:

6

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



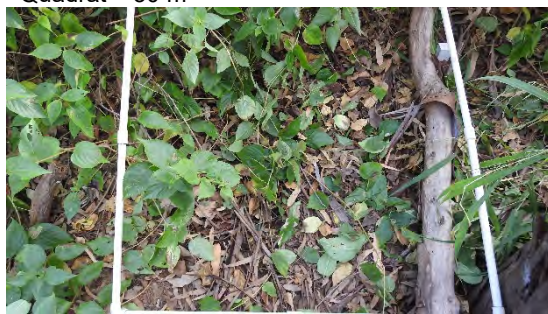
Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC05 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1/11.3.1b (65/20/10/5)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.27048; 148.44382
50 m (centre point):	-22.27045; 148.44337
100 m (end point):	-22.27041; 148.44290
Elevation (mAHD):	174
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum on flood channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	11
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	24
Tree canopy (EDL) height (m):	27
Sub-canopy height (m):	14
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia clarksoniana</i> , <i>Corymbia tessellaris</i> , <i>Acacia salicina</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Cassia brewsteri</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Grewia latifolia</i>	4
Grass spp. richness: <i>Capillipedium spicigerum</i> , <i>Eragrostis elongata</i> , <i>Cynodon dactylon</i> , <i>Dichanthium sp.</i> , <i>Eriochloa sp.</i> , <i>Aristida sp.</i> , <i>Digitaria sp.</i>	7
Forb spp. richness: <i>Aeschynomene indicum</i> , <i>Basilicum polystachion</i> , <i>Cyperus sp.</i> , <i>Cyanthillium cinereum</i> , <i>Crotalaria sp.</i> , <i>Sida sp.</i> , <i>Juncus sp.</i> , <i>Rhynchosia minima</i> , <i>Eleocharis blakeana</i> , <i>Euphorbia tannensis</i> , <i>Vittadinia sp.</i> , <i>Euphorbia drummondii</i> .	12
Other spp.:	
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Lantana camara</i> , <i>Macroptilium atropurpureum</i> , <i>Stylosanthes scabra</i> , <i>Passiflora foetida</i> , <i>Cenchrus ciliaris</i> , <i>Gomphrena celosioides</i> , <i>Parthenium hysterophorus</i> , <i>Melochia pyramidata</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	34.8			
Shrub canopy cover (100 m canopy intercept)	% cover	1.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	52			
Litter cover (1 m x 1 m plots)	% cover	32			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	24
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	15	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	5	Total	50	36
Litter cover	5	3	Site + Landscape	106	97
Total	80	73	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	133

Habitat quality score:

9

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC06 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.22520; 148.43639
50 m (centre point):	-22.22548; 148.43603
100 m (end point):	-22.22563; 148.43575
Elevation (mAHD):	178
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum and Tea tree on creek channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	15
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	32
Tree canopy (EDL) height (m):	23
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Melaleuca fluviatilis</i> , <i>Acacia salicina</i> , <i>Lysiphyllum hookeri</i> , <i>Alphitonia excelsa</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Erythrina vespertilio</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Acacia flavescens</i> , <i>Santalum lanceolatum</i> , <i>Acacia leiocalyx</i>	6
Grass spp. richness: <i>Heteropogon contortus</i> , <i>Cynodon dactylon</i> , <i>Enteropogon ramosus</i>	3
Forb spp. richness: <i>Waltheria indica</i>	1
Other spp.:	
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Lantana camara</i> , <i>Macroptilium atropurpureum</i> , <i>Passiflora foetida</i> , <i>Cenchrus ciliaris</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Erigeron bonariensis</i> , <i>Sida cordifolia</i> , <i>Richardia brasiliensis</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	93.1			
Shrub canopy cover (100 m canopy intercept)	% cover	1.7			
Native perennial grass cover (1 m x 1 m plots)	% cover	3			
Litter cover (1 m x 1 m plots)	% cover	27			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	375			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	2.5	Total:	26	5
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	15	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	36
Litter cover	5	5	Site + Landscape	106	64.5
Total	80	59.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	100.5

Habitat quality score:

6

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC01 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06212; 148.46582
50 m (centre point):	-22.06168; 148.46599
100 m (end point):	-22.06133; 148.46613
Elevation (mAHD):	201
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Ventilago viminalis</i> , <i>Eucalyptus tereticornis</i> , <i>Acacia salicina</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Carissa ovata</i> , <i>Acacia oswaldii</i> , <i>Atalaya hemiglauc</i> , <i>Capparis lasiantha</i> , <i>Ehretia membranifolia</i> , <i>Diospyros humilis</i> , <i>Capparis loranthifolia</i> , <i>Psyrax oleifolius</i>	11
Grass spp. richness: <i>Aristida calycina</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis brownii</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Evolvulus alsinoides</i> , <i>Alternanthera sp.</i> , <i>Galactia tenuifolia</i> , <i>Cyperus gracilis</i> , <i>Fimbristylis dichotoma</i>	6
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i> , <i>Malvastrum americanum</i>	80

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	21.9			
Shrub canopy cover (100 m canopy intercept)	% cover	8.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	4			
Litter cover (1 m x 1 m plots)	% cover	37			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	360			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	36
Litter cover	5	5	Site + landscape	106	61
Total	80	43	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	97

Habitat quality score:

6

Site photos



Start point, facing NNE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC03 – squatter pigeon	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06037; 148.47212
50 m (centre point):	-22.06082; 148.47223
100 m (end point):	-22.06123; 148.47238
Elevation (mAHD):	196
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	7
Sub-canopy height (m):	4
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>Acacia salicina</i> , <i>Vachellia bidwillii</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Vachellia bidwillii</i> , <i>Petalostigma pubescens</i> , <i>Myoporum acuminatum</i> , <i>Denhamia cunninghamii</i>	7
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis sororia</i> , <i>Eragrostis brownii</i> , <i>Panicum effusum</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Evolvulus alsinoides</i> , <i>Polygala sp.</i>	3
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i>	60

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	25.3			
Shrub canopy cover (100 m canopy intercept)	% cover	1.1			
Native perennial grass cover (1 m x 1 m plots)	% cover	1.4			
Litter cover (1 m x 1 m plots)	% cover	15			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	270			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	36
Litter cover	5	5	Site + landscape	106	60
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	96

Habitat quality score:

6

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC05 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06441; 148.48267
50 m (centre point):	-22.06418; 148.48227
100 m (end point):	-22.06395; 148.48183
Elevation (mAHD):	196
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	8
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Atalaya hemiglauc</i> , <i>Acacia salicina</i> ,	3
50 x 10 m area	
Shrub spp. richness: <i>Carissa ovata</i> , <i>Atalaya hemiglauc</i> , <i>Ventilago viminalis</i> , <i>Capparis umbonata</i> , <i>Alectryon oleifolius</i> , <i>Cassia brewsteri</i> , <i>Acacia salicina</i> , <i>Eremophila mitchellii</i> , <i>Flindersia dissosperma</i> , <i>Ehretia membranifolia</i> , <i>Acacia oswaldii</i> , <i>Grevillea striata</i> , <i>Denhamia cunninghamii</i>	13
Grass spp. richness: <i>Aristida calycina</i> , <i>Bothriochloa bladhii</i> , <i>Eragrostis sp.</i> , <i>Enteropogon ramosus</i> , <i>Chrysopogon fallax</i> , <i>Panicum effusum</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Cyperus sp.</i> , <i>Glycine sp.</i> , <i>Melhanian oblongifolia</i> , <i>Nyssanthus erecta</i> , <i>Fimbristylis dichotoma</i> , <i>Alternanthera denticulata</i> , <i>Uident</i> , <i>Rhynchosia minima</i>	9
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pertusa</i> , <i>Stylosanthes scabra</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	10.2			
Shrub canopy cover (100 m canopy intercept)	% cover	6.5			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	16			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	305			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	16
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	3	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	36
Litter cover	5	5	Site + landscape	106	58
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	94

Habitat quality score:

6

Site photos



Start point, facing SE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC06 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05447; 148.48108
50 m (centre point):	-22.05491; 148.481
100 m (end point):	-22.05537; 148.48093
Elevation (mAHD):	207
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. cambageana</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Carissa ovata</i> , <i>Ventilago viminalis</i> , <i>Cassia brewsteri</i> , <i>Acacia excelsa</i> , <i>Eremophila mitchellii</i> , <i>Acacia oswaldii</i> , <i>Denhamia cunninghamii</i> , <i>Capparis lasiantha</i> , <i>Psydrax oleifolius</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>A. personata</i> , <i>Chrysopogon fallax</i>	4
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Sida rohlenae</i> , <i>Melhania oblongifolia</i> , <i>Evolvulus alsinoides</i> , <i>Waltheria indica</i> , <i>Pterocaulon redolens</i>	6
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pertusa</i> , <i>Opuntia tomentosa</i>	50

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	9.1
Shrub canopy cover (100 m canopy intercept)	% cover	1.9
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	24
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	6
Shrubs	no. species	6
Grasses	no. species	6
Forbs	no. species	10
Large eucalypts	no. / ha	9
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	16
Tree canopy cover	%	20
Native shrub cover	%	3
Native perennial grass cover	%	19
Organic litter cover	%	20
Coarse woody debris	m / ha	314

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	3	Threats	15	15
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	36
Litter cover	5	5	Site + landscape	106	55
Total	80	39	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	91

Habitat quality score:

6

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC07 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.06027; 148.47829
50 m (centre point):	-22.06006; 148.47871
100 m (end point):	-22.05988; 148.47914
Elevation (mAHD):	205
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>E. cambageana</i> , <i>Acacia salicina</i> , <i>Corymbia clarksoniana</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Owenia acidula</i> , <i>Grewia latifolia</i> , <i>Melaleuca nervosa</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>A. jerichoensis</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Eragrostis sp.</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa bladhii</i>	7
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Calotis cuneifolia</i> , <i>Evolvulus alsinoides</i> , <i>Waltheria indica</i>	4
Other spp.:	
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Malvastrum americanum</i> , <i>Stylosanthes scabra</i> , <i>Sida spinescens</i> , <i>Scoparia dulcis</i> , <i>Harrisia martinii</i>	35

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	17.4			
Shrub canopy cover (100 m canopy intercept)	% cover	1.4			
Native perennial grass cover (1 m x 1 m plots)	% cover	3.8			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	465			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	36
Litter cover	5	3	Site + landscape	106	58
Total	80	42	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	94

Habitat quality score:

6

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC08 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07139; 148.46609
50 m (centre point):	-22.07178; 148.46594
100 m (end point):	-22.07220; 148.46577
Elevation (mAHD):	209
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	7
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Corymbia clarksoniana</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Vachellia bidwillii</i> , <i>Grewia retusifolia</i> , <i>Atalaya hemiglaucula</i> , <i>Acacia salicina</i> , <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Capparis lasiantha</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Panicum effusum</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa bladhii</i>	6
Forb spp. richness: <i>Phyllanthus virgatus</i> , <i>Fimbristylis dichotoma</i> , <i>Nyssanthus erecta</i> , <i>Waltheria indica</i>	4
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i>	30

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	15.5			
Shrub canopy cover (100 m canopy intercept)	% cover	4			
Native perennial grass cover (1 m x 1 m plots)	% cover	6			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	625			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	15
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	36
Litter cover	5	5	Site + landscape	106	62
Total	80	48	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	98

Habitat quality score:

6

Site photos



Start point, facing SSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: ConBC09 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 21/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.3 regrowth (Non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07333; 148.45364
50 m (centre point):	-22.07287; 148.45351
100 m (end point):	-22.07251; 148.45338
Elevation (mAHD):	206
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box regrowth on sandy light clay
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	6.5
Sub-canopy height (m):	-
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Corymbia clarksoniana</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Archidendropsis basaltica</i> , <i>Cassia brewsteri</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Petalostigma pubescens</i> , <i>Ventilago viminalis</i> , <i>Acacia excelsa</i> , <i>Capparis lasiantha</i>	8
Grass spp. richness: <i>Aristida calycina</i> , <i>Panicum effusum</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Heteropogon contortus</i> , <i>Bothriochloa sp.</i> , <i>Enteropogon acicularis</i> , <i>Enneapogon avenaceus</i>	8
Forb spp. richness: <i>Alternanthera sp.</i> , <i>Phyllanthus virgatus</i> , <i>Fimbristylis dichotoma</i> , <i>Sida sp.</i>	4
Other spp.:	-
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Urochloa mosambicensis</i> , <i>Sida spinescens</i> , <i>Bothriochloa pertusa</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	1.5			
Shrub canopy cover (100 m canopy intercept)	% cover	13.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	8			
Litter cover (1 m x 1 m plots)	% cover	29			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	800			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	12
Tree canopy cover	5	0	Habitat:		
Tree canopy height	5	3	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	36
Litter cover	5	5	Site + landscape	106	50
Total	80	38	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	86

Habitat quality score:

6

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC01 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.27b	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05169; 148.48329
50 m (centre point):	-22.05176; 148.48381
100 m (end point):	-22.05186; 148.48427
Elevation (mAHD):	208
General Site Description	
Landform	Closed depression
Soil	Light clay and alluvial sands
Dominant vegetation observed	Forest red gum on sedgy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	14
Tree canopy (EDL) height (m):	23
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness:	1
<i>Eucalyptus tereticornis</i>	
50 x 10 m area	
Shrub spp. richness: <i>Ludwigia octovalvis</i>	1
Grass spp. richness: <i>Brachyachne convergens</i> , <i>Diplachne fusca</i> var. <i>fusca</i>	2
Forb spp. richness: <i>Eleocharis</i> sp., <i>Eleocharis plana</i> , <i>Marsilea</i> sp., <i>Centipeda minima</i> , <i>Cucumis argenteus</i>	5
Other spp.:	-
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Passiflora foetida</i> , <i>Heliotropium indicum</i>	<5

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	35.7
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	1.4
Litter cover (1 m x 1 m plots)	% cover	48.4
Coarse woody debris (from 50 m x 20 m plot)	m / ha	530
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	1
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	6
Large eucalypts	no. / ha	46
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	16
Tree canopy cover	%	40
Native shrub cover	%	NA
Native perennial grass cover	%	3
Organic litter cover	%	15
Coarse woody debris	m / ha	530

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	5	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	10	Total	50	38
Litter cover	5	3	Site + landscape	106	64
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	102

Habitat quality score:

7

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC02 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.18831; 148.41695
50 m (centre point):	-22.18803; 148.41656
100 m (end point):	-22.18776; 148.41617
Elevation (mAHD):	177
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Coolabah woodland on ephemeral sedge swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	6
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	12
Tree canopy (EDL) height (m):	17
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus coolabah</i> , <i>Acacia harpophylla</i> , <i>Acacia salicina</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum hookeri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i>	1
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Dinebra decipiens</i> , <i>Diplachne fusca</i> var. <i>fusca</i>	3
Forb spp. richness: <i>Cyperus exaltatus</i> , <i>Balsamicum polystachion</i> , <i>Alternanthera denticulata</i> , <i>Cyperus</i> sp., <i>Rorippa eustylis</i> , <i>Ottelia</i> sp., <i>Ammannia multiflora</i> , <i>Cyperus difformis</i>	8
Other spp.:	-
Weed spp. and cover as % of area: <i>Echinochloa colona</i>	<5%

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	41.6			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	4			
Litter cover (1 m x 1 m plots)	% cover	6			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	140			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	1			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	6			
Large eucalypts	no. / ha	46			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	16			
Tree canopy cover	%	40			
Native shrub cover	%	NA			
Native perennial grass cover	%	3			
Organic litter cover	%	15			
Coarse woody debris	m / ha	530			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	5	Mobility	10	10
Fallen woody material	5	2	Site location	5	1
Weed cover	10	10	Total	50	28
Litter cover	5	3	Site + landscape	106	69
Total	80	65	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	97

Habitat quality score:

6

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC03 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.20904; 148.42899
50 m (centre point):	-22.20945; 148.42902
100 m (end point):	Not recorded
Elevation (mAHD):	174
General Site Description	
Landform	Closed depression
Soil	Light clay and alluvial sands
Dominant vegetation observed	Forest red gum and Coolabah on sedgy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	12
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	24
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Eucalyptus coolabah</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Ludwigia</i> sp.	1
Grass spp. richness: <i>Brachyachne convergens</i> , <i>Leersia hexandra</i>	2
Forb spp. richness: <i>Eleocharis sphacelata</i> , <i>Eleocharis plana</i> , <i>Marsilea drummondii</i> , <i>Cyperus exaltata</i> , <i>Balsamicum polystachion</i> , <i>Sesbania</i> sp., <i>Cyperus pygmaeus</i> , <i>Cyperus difformis</i> , <i>Glinus lotoides</i> , <i>Cucumis</i> sp.,	10
Other spp.:	-
Weed spp. and cover as % of area: <i>Parkinsonia aculeata</i>	<5

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	33.3
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	14
Coarse woody debris (from 50 m x 20 m plot)	m / ha	462
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	1
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	6
Large eucalypts	no. / ha	46
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	16
Tree canopy cover	%	40
Native shrub cover	%	NA
Native perennial grass cover	%	3
Organic litter cover	%	15
Coarse woody debris	m / ha	530

Site assessment scoring sheet

Scoring sheet

Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	7
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	10
Native perennial grass cover	5	0	Quality of shelter	10	10
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	10	Total	50	38
Litter cover	5	5	Site + landscape	106	75
Total	80	68	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	113

Habitat quality score:

7

Site photos



Start point, facing S



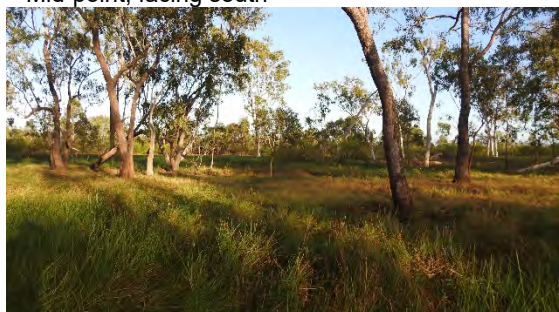
Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 5.17BC01 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07656; 148.45959
50 m (centre point):	-22.07617; 148.45937
100 m (end point):	-22.07577; 148.45911
Elevation (mAHD):	204
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum and Poplar gum fringed grassy swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	2
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	4
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis, Eucalyptus platyphylla</i>	2
50 x 10 m area	
Shrub spp. richness:	
Grass spp. richness: <i>Brachyachne convergens, Microlaena stipoides</i>	2
Forb spp. richness: <i>Centipeda minima, Alternanthera nana, Phyllanthus virgatus</i>	3
Other spp.: <i>Cymbidium canaliculatum</i>	1
Weed spp. and cover as % of area: <i>Heliotropium indicum, Eclipta prostrata, Passiflora foetida</i>	<5

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	21.8
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	70
Litter cover (1 m x 1 m plots)	% cover	29
Coarse woody debris (from 50 m x 20 m plot)	m / ha	395
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	7
Large eucalypts	no. / ha	29
Large non-eucalypts	no. / ha	na
Tree canopy median height	m	18
Tree canopy cover	%	41
Native shrub cover	%	3
Native perennial grass cover	%	20
Organic litter cover	%	31
Coarse woody debris	m / ha	330

Site assessment scoring sheet

Scoring sheet

Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	2.5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	7
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	5	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	10	Total	50	28
Litter cover	5	5	Site + landscape	106	63.5
Total	80	56.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	91.5

Habitat quality score:

6

Site photos



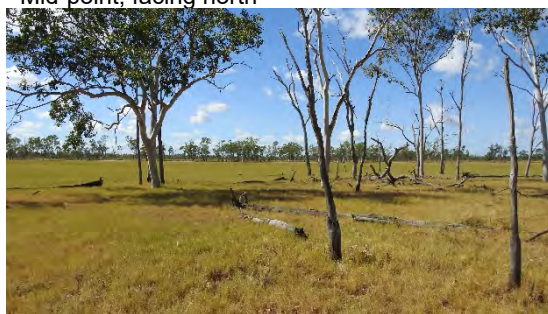
Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 5.17BC02 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.09204; 148.49074
50 m (centre point):	-22.09177; 148.49109
100 m (end point):	Not recorded
Elevation (mAHD):	200
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum fringed grassy swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	6
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	12
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	9
Emergent height (m):	na
Total tree species richness:	1
<i>Eucalyptus tereticornis</i>	
50 x 10 m area	
Shrub spp. richness:	
Grass spp. richness:	1
<i>Brachyachne convergens</i>	
Forb spp. richness:	1
<i>Marsilea sp.</i>	
Other spp.:	-
Weed spp. and cover as % of area:	<5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	36.9			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	25			
Litter cover (1 m x 1 m plots)	% cover	75			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	31			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	2.5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	2.5	Total:	26	5
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	5	Mobility	10	10
Fallen woody material	5	0	Site location	5	1
Weed cover	10	10	Total	50	28
Litter cover	5	3	Site + landscape	106	54
Total	80	49	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	82

Habitat quality score:

5

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 5.17BC03 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 30/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.07801; 148.46028
50 m (centre point):	-22.07781; 148.45988
100 m (end point):	-22.07753; 148.45952
Elevation (mAHD):	208
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum and Poplar gum woodland on grassy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	14
Tree canopy (EDL) height (m):	17
Sub-canopy height (m):	9
Emergent height (m):	na
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Eucalyptus platyphylla</i> , <i>E. tereticornis</i> x <i>E. platyphylla</i> hybrid	2
50 x 10 m area	
Shrub spp. richness:	
Grass spp. richness: <i>Brachyachne convergens</i> , <i>Dinebra decipiens</i> , <i>Eragrostis elongata</i>	3
Forb spp. richness: <i>Cyperus victoriensis</i> , <i>Phyllanthus virgatus</i> , <i>Centipeda minima</i> ,	3
Other spp.:	
Weed spp. and cover as % of area: <i>Sida spinescens</i> , <i>Heliotropium indicum</i> , <i>Passiflora foetida</i>	<1

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	34.6			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	44			
Litter cover (1 m x 1 m plots)	% cover	51			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	365			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	31			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	2.5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	7
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	5	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	10	Total	50	28
Litter cover	5	5	Site + landscape	106	65.5
Total	80	58.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	93.5

Habitat quality score:

6

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 5.17BC04 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 22/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.23622; 148.52362
50 m (centre point):	-22.23578; 148.52347
100 m (end point):	-22.23535; 148.52336
Elevation (mAHD):	177
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum grassy woodland
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i>	1
50 x 10 m area	
Shrub spp. richness: <i>Ludwigia octovalvis</i>	1
Grass spp. richness: <i>Dinebra decipiens, Eragrostis lacunaria, Brachyachne convergens, Digitaria sp.</i>	4
Forb spp. richness: <i>Sphaeromorphaea australis, Centipeda minima, Alternanthera denticulata, Dentella repens, Polygonum plebeium, Cyperus sp., Balsamicum polystachion, Ammannia multiflora</i>	8
Other spp.:	
Weed spp. and cover as % of area: <i>Eclipta prostrata, Echinochloa colona, Gomphrena celosioides, Stylosanthes scabra, Scoparia dulcis, Heliotropium indicum</i>	<5

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	36.2
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	9
Litter cover (1 m x 1 m plots)	% cover	40
Coarse woody debris (from 50 m x 20 m plot)	m / ha	450
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	7
Large eucalypts	no. / ha	29
Large non-eucalypts	no. / ha	na
Tree canopy median height	m	18
Tree canopy cover	%	41
Native shrub cover	%	3
Native perennial grass cover	%	20
Organic litter cover	%	31
Coarse woody debris	m / ha	330

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	10	Total	50	33
Litter cover	5	5	Site + landscape	106	58
Total	80	54	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	91

Habitat quality score :

6

Site photos



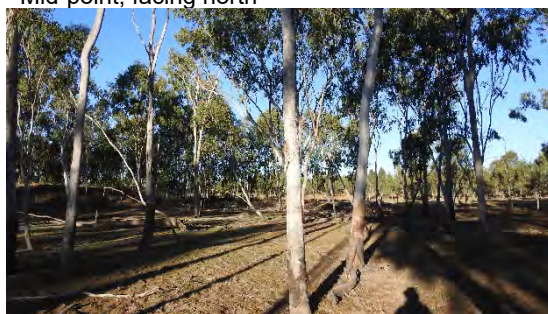
Start point, facing N



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



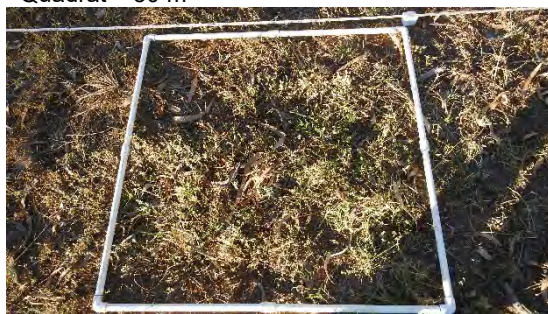
Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: HESBC01 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 22/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.27b	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.23126; 148.41959
50 m (centre point):	-22.23170; 148.41949
100 m (end point):	-22.23209; 148.41936
Elevation (mAHD):	185
General Site Description	
Landform	Closed depression – swamp, back channel
Soil	Light clay
Dominant vegetation observed	Forest red gum and Coolabah on ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	2
Tree canopy (EDL) height (m):	25
Sub-canopy height (m):	18
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Eucalyptus coolabah</i> , <i>Acacia salicina</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i>	1
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Dinebra decipiens</i> , <i>Eragrostis sp.</i> , <i>Cynodon dactylon</i> , <i>Eriochloa pseudoacrotricha</i> , <i>Enteropogon ramosus</i>	6
Forb spp. richness: <i>Alternanthera denticulata</i> , <i>Eleocharis plana</i> , <i>Marsilea drummondii</i> , <i>Euphorbia drummondii</i> , <i>Glinus lotoides</i> , <i>Polygonum plebeium</i> , <i>Glycine sp.</i> , <i>Cyperus exaltatus</i> , <i>Aeschynomene indica</i>	9
Other spp.:	
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Malvastrum coromandelianum</i> , <i>Heliotropium indicum</i> , <i>Sida rhombifolia</i> , <i>Erigeron bonariensis</i> , <i>Echinochloa colona</i> , <i>Bothriochloa</i> <i>pertusa</i> , <i>Parthenium hysterophorus</i> , <i>Solanum nigrum</i> , <i>Malvastrum</i> <i>americanum</i> , <i>Gomphrena celosioides</i>	15

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	42.3			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	4			
Litter cover (1 m x 1 m plots)	% cover	47			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	1			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	6			
Large eucalypts	no. / ha	46			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	16			
Tree canopy cover	%	40			
Native shrub cover	%	NA			
Native perennial grass cover	%	3			
Organic litter cover	%	15			
Coarse woody debris	m / ha	530			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	1
Large trees	15	5	Mobility	10	10
Fallen woody material	5	0	Site location	5	1
Weed cover	10	5	Total	50	24
Litter cover	5	3	Site + landscape	106	72
Total	80	58	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	96

Habitat quality score:

6

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: HESBC02 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 22/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.23495; 148.51585
50 m (centre point):	-22.23509; 148.51630
100 m (end point):	-22.23521; 148.51663
Elevation (mAHD):	184
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum fringing ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	3
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	6
Tree canopy (EDL) height (m):	19
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness:	1
<i>Eucalyptus tereticornis</i>	
50 x 10 m area	
Shrub spp. richness:	0
Grass spp. richness: <i>Dinebra decipiens</i> , <i>Eragrostis elongata</i> , <i>Eragrostis lacunaria</i> , <i>Brachyachne convergens</i>	4
Forb spp. richness: <i>Sphaeromorphaea australis</i> , <i>Dentella repens</i> , <i>Waltheria indica</i> , <i>Phyllanthus virgatus</i>	4
Other spp.:	
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Lantana montevidensis</i> , <i>Erigeron bonariensis</i> , <i>Stylosanthes sp.</i> , <i>Scoparia dulcis</i> , <i>Heliotropium indicum</i>	10

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	8.6			
Shrub canopy cover (100 m canopy intercept)	% cover	3.8			
Native perennial grass cover (1 m x 1 m plots)	% cover	6			
Litter cover (1 m x 1 m plots)	% cover	68			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	270			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	31			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	2.5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	0
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	5	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	5	Total	50	24
Litter cover	5	3	Site + landscape	106	49.5
Total	80	49.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	73.5

Habitat quality score:

5

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: HESBC01 – wetlands	Assessor – Bruce McLennan
Property: Iffley	Date: 22/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.27b	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.23126; 148.41959
50 m (centre point):	-22.23170; 148.41949
100 m (end point):	-22.23209; 148.41936
Elevation (mAHD):	185
General Site Description	
Landform	Closed depression – swamp, back channel
Soil	Light clay
Dominant vegetation observed	Forest red gum and Coolabah on ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	2
Tree canopy (EDL) height (m):	25
Sub-canopy height (m):	18
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. coolabah</i> , <i>Acacia salicina</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i>	1
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Dinebra decipiens</i> , <i>Eragrostis sp.</i> , <i>Cynodon dactylon</i> , <i>Eriochloa pseudoacrotricha</i> , <i>Enteropogon ramosus</i>	6
Forb spp. richness: <i>Alternanthera denticulata</i> , <i>Eleocharis plana</i> , <i>Marsilea drummondii</i> , <i>Euphorbia drummondii</i> , <i>Glinus lotoides</i> , <i>Polygonum plebeium</i> , <i>Glycine sp.</i> , <i>Cyperus exaltatus</i> , <i>Aeschynomene indica</i>	9
Other spp.:	0
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Malvastrum coromandelianum</i> , <i>Heliotropium indicum</i> , <i>Sida rhombifolia</i> , <i>Erigeron bonariensis</i> , <i>Echinochloa colona</i> , <i>Bothriochloa</i> <i>pertusa</i> , <i>Parthenium hysterophorus</i> , <i>Solanum nigrum</i> , <i>Malvastrum</i> <i>americanum</i> , <i>Gomphrena celosioides</i>	15

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	42.3			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	4			
Litter cover (1 m x 1 m plots)	% cover	47			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	1			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	6			
Large eucalypts	no. / ha	46			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	16			
Tree canopy cover	%	40			
Native shrub cover	%	NA			
Native perennial grass cover	%	3			
Organic litter cover	%	15			
Coarse woody debris	m / ha	530			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	0	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	3	Site + landscape	106	72
Total	80	58	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	72

Habitat quality score:

7

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: HESBC02 – wetlands	Assessor – Bruce McLennan
Property: Iffley	Date: 22/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.23495; 148.51585
50 m (centre point):	-22.23509; 148.51630
100 m (end point):	-22.23521; 148.51663
Elevation (mAHD):	184
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum fringing ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	3
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	6
Tree canopy (EDL) height (m):	19
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness:	1
<i>Eucalyptus tereticornis</i>	
50 x 10 m area	
Shrub spp. richness:	0
Grass spp. richness: <i>Dinebra decipiens, Eragrostis elongata, Eragrostis lacunaria, Brachyachne convergens</i>	4
Forb spp. richness: <i>Sphaeromorphaea australis, Dentella repens, Waltheria indica, Phyllanthus virgatus</i>	4
Other spp.:	0
Weed spp. and cover as % of area: <i>Eclipta prostrata, Lantana montevidensis, Erigeron bonariensis, Stylosanthes sp., Scoparia dulcis, Heliotropium indicum</i>	10

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	8.6			
Shrub canopy cover (100 m canopy intercept)	% cover	3.8			
Native perennial grass cover (1 m x 1 m plots)	% cover	6			
Litter cover (1 m x 1 m plots)	% cover	68			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	270			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	31			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	2.5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	0
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	3	Site + landscape	106	49.5
Total	80	49.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	49.5

Habitat quality score:

5

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC01 – watercourse vegetation	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.05728; 148.49925
50 m (centre point):	-22.05704; 148.49968
100 m (end point):	Not recorded
Elevation (mAHD):	193
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum with shrubby understory on alluvial terraces
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	7
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	16
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. crebra</i> , <i>Corymbia tessellaris</i> , <i>Erythrina vespertilio</i> , <i>Cassia brewsteri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Capparis loranthifolia</i> , <i>Flueggea leucopyrus</i> , <i>Lysicarpus hookeri</i> , <i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Grewia latifolia</i> , <i>Grewia retusifolia</i> , <i>Ficus opposita</i> , <i>Acacia salicina</i> , <i>Petalostigma pubescens</i> , <i>Sida hackettiana</i>	12
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Bothriochloa bladhii</i> , <i>Aristida</i> sp., <i>Heteropogon contortus</i> , <i>Bothriochloa ewartiana</i>	5
Forb spp. richness: <i>Glycine tomentella</i> , <i>Cyperus gracilis</i> , <i>Commelina diffusa</i> , <i>Waltheria indica</i> , <i>Crotalaria</i> sp., <i>Crinum flaccidum</i>	6
Other spp.: <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Sida rhombifolia</i> , <i>Urochloa mosambicensis</i> , <i>Stylosanthes scabra</i>	80

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	18			
Shrub canopy cover (100 m canopy intercept)	% cover	3.1			
Native perennial grass cover (1 m x 1 m plots)	% cover	2			
Litter cover (1 m x 1 m plots)	% cover	11			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	445			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	17
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	3	Quality of foraging	10	
Native perennial grass cover	5	1	Quality of shelter	10	
Large trees	15	10	Mobility	10	
Fallen woody material	5	5	Site location	5	
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + Landscape	106	72
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	72

Habitat quality score (percentage):

7

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC02 – watercourse vegetation	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 28/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.04375; 148.47647
50 m (centre point):	-22.04361; 148.47679
100 m (end point):	-22.04336; 148.47729
Elevation (mAHD):	205
General Site Description	
Landform	Stream channel
Soil	Sand
Dominant vegetation observed	Forest red gum and River tea tree on a watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	12
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	5
Total large trees/ha:	34
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. populnea</i> , <i>Melaleuca fluviatilis</i> , <i>Corymbia tessellaris</i> , <i>C. clarksoniana</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Lysiphyllum hookeri</i> , <i>Alphitonia excelsa</i>	9
50 x 10 m area	
Shrub spp. richness: <i>Exocarpos latifolius</i> , <i>Flueggea leucopyrus</i> , <i>Lysicarpus hookeri</i> , <i>Carissa ovata</i> , <i>Cassia brewsteri</i> , <i>Diospyros humilis</i> , <i>Atalaya hemiglauca</i> , <i>Dodonaea sp.</i> , <i>Grewia latifolia</i> , <i>Sida hackettiana</i>	10
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Themeda triandra</i> , <i>Aristida sp.</i> , <i>Heteropogon contortus</i> , <i>Oplismenus aemulus</i> , <i>Panicum effusum</i> , <i>Eulalia aurea</i>	7
Forb spp. richness: <i>Glycine tomentella</i> , <i>Cyperus gracilis</i> , <i>Ipomoea sp.</i> , <i>Desmodium macrocarpum</i> , <i>Achyranthes aspera</i> , <i>Commelina diffusa</i> , <i>Glycine tabacina</i> , <i>Rhynchosia minima</i>	8
Other spp.: <i>Lomandra longifolia</i> , <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	3
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Emilia sonchifolia</i> , <i>Sida rhombifolia</i> , <i>Tridax procumbens</i> , <i>Malvastrum americanum</i> , <i>Bothriochloa pertusa</i>	70

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	71			
Shrub canopy cover (100 m canopy intercept)	% cover	16.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	16			
Litter cover (1 m x 1 m plots)	% cover	50			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	500			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	19
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	3	Quality of foraging	10	
Native perennial grass cover	5	5	Quality of shelter	10	
Large trees	15	15	Mobility	10	
Fallen woody material	5	5	Site location	5	
Weed cover	10	0	Total	50	0
Litter cover	5	3	Site + Landscape	106	79
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	79

Habitat quality score (percentage):

7

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC03 – watercourse vegetation	Assessor – Bruce McLennan
Property: Twenty Mile	Date: 29/04/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.25/11.3.1 (50/25/25)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.03214; 148.46191
50 m (centre point):	-22.03231; 148.46239
100 m (end point):	-22.03252; 148.4628
Elevation (mAHD):	212
General Site Description	
Landform	Stream channel
Soil	Sand
Dominant vegetation observed	Forest red gum and River tea tree on a watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	2
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	25
Total large trees/ha:	54
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>E. crebra</i> , <i>E. populnea</i> , <i>Melaleuca fluviatilis</i> , <i>Corymbia tessellaris</i> , <i>C. clarksoniana</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Lysiphyllum hookeri</i> , <i>Cassia brewsteri</i>	10
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>Flueggea leucopyrus</i> , <i>Grewia latifolia</i> , <i>Acalypha eremorum</i> , <i>Petalostigma pubescens</i> , <i>Carissa ovata</i> , <i>Erythroxylum australe</i> , <i>Diospyros humilis</i> , <i>Bursaria incana</i> , <i>Acacia rhodoxylon</i>	19
Grass spp. richness: <i>Themeda avenacea</i> , <i>Themeda triandra</i> , <i>Arundinella nepalensis</i> , <i>Heteropogon contortus</i> , <i>Eragrostis sororia</i> , <i>Eragrostis elongata</i> , <i>Dinebra decipiens</i> , <i>Panicum sp.</i> , <i>Sporobolus creber</i>	9
Forb spp. richness: <i>Glycine tomentella</i> , <i>Phyllanthus virgatus</i> , <i>Pratia concolor</i> , <i>Ipomoea sp.</i>	4
Other spp.: <i>Lomandra longifolia</i> , <i>Eustrephus latifolius</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Megathyrsus maximus</i> , <i>Sida cordifolia</i> , <i>Lantana camara</i> , <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Solanum seafortianum</i> , <i>Senna occidentalis</i> , <i>Opuntia tomentosa</i> , <i>Stylosanthes scabra</i> , <i>Melochia pyramidata</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	40			
Shrub canopy cover (100 m canopy intercept)	% cover	20.2			
Native perennial grass cover (1 m x 1 m plots)	% cover	16			
Litter cover (1 m x 1 m plots)	% cover	13			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	177			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	19
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	3	Quality of foraging	10	
Native perennial grass cover	5	5	Quality of shelter	10	
Large trees	15	15	Mobility	10	
Fallen woody material	5	5	Site location	5	
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + Landscape	106	90
Total	80	71	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	90

Habitat quality score:

8

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC04 – watercourse vegetation	Assessor – Bruce McLennan (Arcadian Ecology)
Property: Deverill	Date: 02/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.25	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16444; 148.37341
50 m (centre point):	-22.16448; 148.37302
100 m (end point):	-22.16464; 148.37254
Elevation (mAHD):	177
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum on alluvial terraces and banks
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	6
Total large trees/ha:	30
Tree canopy (EDL) height (m):	37
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis, Casuarina cunninghamiana, Corymbia tessellaris, Ficus opposita, Acacia salicina</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Melaleuca linariifolia, Lysiphyllum hookeri</i>	2
Grass spp. richness: <i>Cynodon dactylon</i>	1
Forb spp. richness: <i>Ipomoea sp., Pratia concolor</i>	2
Other spp.: <i>Eustrephus latifolius</i>	1
Weed spp. and cover as % of area: <i>Megathyrsus maximus, Lantana camara, Sida rhombifolia, Urochloa mosambicensis, Macroptilium purpureum, Scoparia dulcis, Passiflora foetida, Erigeron bonariensis, Leucas lavandulifolia, Calyptocarpus vialis, Bothriochloa pertusa, Parthenium hysterophorus</i>	90

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	77.5			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	42			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	2.5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	24
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	0	Quality of foraging	10	
Native perennial grass cover	5	0	Quality of shelter	10	
Large trees	15	10	Mobility	10	
Fallen woody material	5	0	Site location	5	
Weed cover	10	0	Total	50	0
Litter cover	5	3	Site + Landscape	106	65.5
Total	80	41.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	65.5

Habitat quality score:

6

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



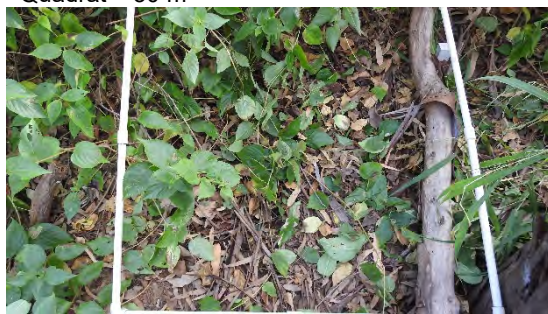
Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC05 – Watercourse vegetation	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1/11.3.1b (65/20/10/5)	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.27048; 148.44382
50 m (centre point):	-22.27045; 148.44337
100 m (end point):	-22.27041; 148.44290
Elevation (mAHD):	174
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum on flood channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	11
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	24
Tree canopy (EDL) height (m):	27
Sub-canopy height (m):	14
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia clarksoniana</i> , <i>Corymbia tessellaris</i> , <i>Acacia salicina</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Cassia brewsteri</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Grewia latifolia</i>	4
Grass spp. richness: <i>Capillipedium spicigerum</i> , <i>Eragrostis elongata</i> , <i>Cynodon dactylon</i> , <i>Dichanthium</i> sp., <i>Eriochloa</i> sp., <i>Aristida</i> sp., <i>Digitaria</i> sp.	7
Forb spp. richness: <i>Aeschynomene indicum</i> , <i>Basilicum polystachion</i> , <i>Cyperus</i> sp., <i>Cyanthillium cinereum</i> , <i>Crotalaria</i> sp., <i>Sida</i> sp., <i>Juncus</i> sp., <i>Rhynchosia minima</i> , <i>Eleocharis blakeana</i> , <i>Euphorbia tannensis</i> , <i>Vittadinia</i> sp., <i>Euphorbia drummondii</i> .	12
Other spp.:	0
Weed spp. and cover as % of area: <i>Megathyrsus maximus</i> , <i>Lantana camara</i> , <i>Macroptilium atropurpureum</i> , <i>Stylosanthes scabra</i> , <i>Passiflora foetida</i> , <i>Cenchrus ciliaris</i> , <i>Gomphrena celosioides</i> , <i>Parthenium hysterophorus</i> , <i>Melochia pyramidata</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	34.8			
Shrub canopy cover (100 m canopy intercept)	% cover	1.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	52			
Litter cover (1 m x 1 m plots)	% cover	32			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	24
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	5	Quality of foraging	10	
Native perennial grass cover	5	5	Quality of shelter	10	
Large trees	15	15	Mobility	10	
Fallen woody material	5	5	Site location	5	
Weed cover	10	5	Total	50	0
Litter cover	5	3	Site + Landscape	106	97
Total	80	73	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	97

Habitat quality score:

9

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.25BC06 – Watercourse vegetation	Assessor – Bruce McLennan
Property: Iffley	Date: 04/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.22520; 148.43639
50 m (centre point):	-22.22548; 148.43603
100 m (end point):	-22.22563; 148.43575
Elevation (mAHD):	178
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum and Tea tree on creek channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	15
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	32
Tree canopy (EDL) height (m):	23
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Melaleuca fluviatilis</i> , <i>Acacia salicina</i> , <i>Lysiphyllum hookeri</i> , <i>Alphitonia excelsa</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Erythrina vespertilio</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i> , <i>Acacia flavescens</i> , <i>Santalum lanceolatum</i> , <i>Acacia leiocalyx</i>	6
Grass spp. richness: <i>Heteropogon contortus</i> , <i>Cynodon dactylon</i> , <i>Enteropogon ramosus</i>	3
Forb spp. richness: <i>Waltheria indica</i>	1
Other spp.:	
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Lantana camara</i> , <i>Macroptilium atropurpureum</i> , <i>Passiflora foetida</i> , <i>Cenchrus ciliaris</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Erigeron bonariensis</i> , <i>Sida cordifolia</i> , <i>Richardia brasiliensis</i>	70

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	93.1
Shrub canopy cover (100 m canopy intercept)	% cover	1.7
Native perennial grass cover (1 m x 1 m plots)	% cover	3
Litter cover (1 m x 1 m plots)	% cover	27
Coarse woody debris (from 50 m x 20 m plot)	m / ha	375
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	4
Shrubs	no. species	2
Grasses	no. species	8
Forbs	no. species	12
Large eucalypts	no. / ha	14
Large non-eucalypts	no. / ha	7
Tree canopy median height	m	23
Tree canopy cover	%	22
Native shrub cover	%	1
Native perennial grass cover	%	12
Organic litter cover	%	15
Coarse woody debris	m / ha	375

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	0
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	2.5	Total:	26	5
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	15	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + Landscape	106	64.5
Total	80	59.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	64.5

Habitat quality score:

6

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 5.3BC01 – Watercourse vegetation	Assessor – Bruce McLennan
Property: Deverill	Date: 05/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.9c	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.03251; 148.48.65
50 m (centre point):	-22.03292; 148.48071
100 m (end point):	-22.03342; 148.48079
Elevation (mAHD):	213
General Site Description	
Landform	Gently undulating plain – incised watercourse
Soil	Sandy light clay
Dominant vegetation observed	Poplar box grassy woodland on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	10
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	1
Total large trees/ha:	22
Tree canopy (EDL) height (m):	19
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Casuarina cristata</i> , <i>Ventilago viminalis</i> , <i>Acacia harpophylla</i> , <i>Eucalyptus crebra</i> , <i>Acacia salicina</i> , <i>Acacia excelsa</i>	7
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>Carissa ovata</i> , <i>Eremophila mitchellii</i> , <i>Sida hackettiana</i> , <i>Alphitonia excelsa</i> , <i>Terminalia oblongata</i> , <i>Capparis lasiantha</i> , <i>Atalaya hemiglauc</i> , <i>Geijera parviflora</i> , <i>Ventilago viminalis</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Flueggea leucopyrus</i> , <i>Denhamia cunninghamii</i> , <i>Psydrax odorata</i> subsp. <i>buxifolia</i> , <i>Santalum lanceolatum</i> , <i>Grewia latifolia</i> , <i>Acacia oswaldii</i> , <i>Indigofera</i> sp., <i>Waltheria indica</i>	19
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium caespitosum</i> , <i>Eragrostis sororia</i> , <i>Enteropogon ramosus</i> , <i>Themeda avenacea</i> , <i>Microlaena stipoides</i> , <i>Enneapogon</i> sp., <i>Themeda triandra</i> , <i>Eragrostis elongata</i> , <i>Sporobolus caroli</i> , <i>Eragrostis</i> sp. 1 & 2	15
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Evolvulus alsinoides</i> , <i>Achyranthes aspera</i> , <i>Neptunia</i> sp., <i>Nyssanthus erecta</i> , <i>Haloragis</i> sp., <i>Hibiscus sturtii</i> , <i>Glycine tomentella</i> , <i>Apowollastonia spilanthis</i> , <i>Tephrosia</i> sp., <i>Phyllanthus virgatus</i> , <i>Rhynchosia minima</i> , <i>Rostellularia adscendens</i> , <i>Desmodium brachypodum</i> , <i>Glycine</i> sp., <i>Melhania oblongifolia</i> , UNIDENT, <i>Hibiscus meraukensis</i> , <i>Abutilon oxycarpum</i> , <i>Vittadinia sulcata</i> , <i>Cyperus</i> sp., <i>Indigofera linifolia</i>	23
Other spp.: <i>Parsonsia lanceolata</i> , <i>Marsdenia</i> sp., <i>Jacquemontia paniculata</i>	3
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Bothriochloa pertusa</i> , <i>Scoparia dulcis</i> , <i>Gomphrena celosioides</i> , <i>Opuntia tomentosa</i> , <i>Stylosanthes scabra</i>	10

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	35.1			
Shrub canopy cover (100 m canopy intercept)	% cover	20.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	25			
Litter cover (1 m x 1 m plots)	% cover	30			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	215			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	3	Quality of foraging	10	
Native perennial grass cover	5	5	Quality of shelter	10	
Large trees	15	15	Mobility	10	
Fallen woody material	5	5	Site location	5	
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + Landscape	106	87
Total	80	73	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	87

Habitat quality score:

8

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Appendix E: Terrestrial habitat quality assessments of the Stage One Impact Area

Site: Impact 3.1BC01 – endangered	Assessor – Bruce McLennan
Property: Wynette	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.4.9	Observed RE: 11.3.1
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.15934; 148.31157
50 m (centre point):	-22.15913; 148.31201
100 m (end point):	Not recorded
Elevation (mAHD):	191
General Site Description	
Landform	Gently undulating plain - drainage
Soil	Light clay
Dominant vegetation observed	Coolabah and Brigalow woodland on clay soil drainage
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	3
Total large trees/ha:	6
Tree canopy (EDL) height (m):	13
Sub-canopy height (m):	8
Emergent height (m):	15
Total tree species richness: <i>Eucalyptus coolabah</i> , <i>Acacia harpophylla</i> , <i>Lysiphyllum carronii</i> , <i>Brachychiton rupestris</i> , <i>Lysiphyllum hookeri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Terminalia oblongata</i> , <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Alectryon diversifolius</i> , <i>Acacia salicina</i> , <i>Apophyllum anomalum</i> , <i>Alectryon oleifolius</i> , <i>Jasminum didymum subsp. lineare</i> , <i>Abutilon oxycarpum</i>	10
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Enteropogon acicularis</i> , <i>Enteropogon ramosus</i> , <i>Paspalidium jubiflorum</i> , <i>Eragrostis tenellula</i> , <i>Bothriochloa bladhii</i> , <i>Eriochloa sp.</i> , <i>Paspalidium sp.</i> ,	8
Forb spp. richness: <i>Evolvulus alsinoides</i> , <i>Phyllanthus virgatus</i> , <i>Alternanthera denticulata</i> , <i>Boerhavia dominii</i> , <i>Cyperus sp.</i> , <i>Ipomoea plebeia</i> , <i>Cyperus bifax</i> , <i>Glycine sp.</i> , <i>Oxalis sp.</i> , <i>Dipteracanthus australasicus</i> , <i>Basilicum polystachion</i> , <i>Centipeda minima</i> , <i>Goodenia sp.</i> , <i>Alternanthera sp.</i> ,	14
Other spp.: <i>Parsonsia sp.</i> , <i>Eustrephus latifolius</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Harrisia martinii</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i> , <i>Malvastrum coromandelianum</i>	45

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	14.7
Shrub canopy cover (100 m canopy intercept)	% cover	3
Native perennial grass cover (1 m x 1 m plots)	% cover	16
Litter cover (1 m x 1 m plots)	% cover	14
Coarse woody debris (from 50 m x 20 m plot)	m / ha	845
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	5
Grasses	no. species	4
Forbs	no. species	8
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	170
Tree canopy median height	m	14
Tree canopy cover	%	29
Native shrub cover	%	8
Native perennial grass cover	%	8
Organic litter cover	%	34
Coarse woody debris	m / ha	1752

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	3	Quality of foraging	10	
Native perennial grass cover	5	5	Quality of shelter	10	
Large trees	15	5	Mobility	10	
Fallen woody material	5	2	Site location	5	
Weed cover	10	3	Total	50	0
Litter cover	5	3	Site + Landscape	106	60
Total	80	56	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	60

Habitat quality score:

6

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.1BC02 – endangered	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.1
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.12471; 148.27284
50 m (centre point):	-22.12470; 148.27333
100 m (end point):	Not recorded
Elevation (mAHD):	192
General Site Description	
Landform	Gently undulating plain - drainage
Soil	Light clay
Dominant vegetation observed	Coolabah and Brigalow woodland on clay soil drainage
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	3
Total large trees/ha:	6
Tree canopy (EDL) height (m):	11
Sub-canopy height (m):	6
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus coolabah</i> , <i>Acacia harpophylla</i> , <i>Acacia excelsa</i> , <i>Corymbia dallachiana</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum hookeri</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Acacia harpophylla</i> , <i>Acacia salicina</i> , <i>Grewia retusifolia</i> , <i>L. hookeri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Sida hackettiana</i> , <i>Psydrax oleifolius</i> ,	9
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Chrysopogon fallax</i> , <i>Bothriochloa decipiens</i> , <i>Themeda avenacea</i> ,	4
Forb spp. richness: <i>Myrsine erecta</i> , <i>Rostellularia adscendens</i> , <i>Euphorbia drummondii</i> , <i>Rhynchosia minima</i> , <i>Cyperus</i> sp., <i>Evolvulus alsinoides</i> , <i>Solanum ellipticum</i> , <i>Corchorus trilocularis</i> , <i>Achyranthes aspera</i> , <i>Cyperus gracilis</i> , <i>Commelina diffusa</i> , <i>Dianella nervosa</i> ,	12
Other spp.: <i>Eustrephus latifolius</i>	1
Weed spp. and cover as % of area: <i>Urochloa mosambicensis</i> , <i>Harrisia martinii</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i> , <i>Malvastrum coromandelianum</i> , <i>Megathyrsus maximus</i> , <i>Eclipta prostrata</i> , <i>Vachellia farnesiana</i> , <i>Sida spinescens</i>	25

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	28.2			
Shrub canopy cover (100 m canopy intercept)	% cover	3.4			
Native perennial grass cover (1 m x 1 m plots)	% cover	20			
Litter cover (1 m x 1 m plots)	% cover	39			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	440			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	5			
Grasses	no. species	4			
Forbs	no. species	8			
Large eucalypts	no. / ha	NA			
Large non-eucalypts	no. / ha	170			
Tree canopy median height	m	14			
Tree canopy cover	%	29			
Native shrub cover	%	8			
Native perennial grass cover	%	8			
Organic litter cover	%	34			
Coarse woody debris	m / ha	1752			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	7
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	15
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	3	Quality of foraging	10	
Native perennial grass cover	5	5	Quality of shelter	10	
Large trees	15	5	Mobility	10	
Fallen woody material	5	2	Site location	5	
Weed cover	10	5	Total	50	0
Litter cover	5	5	BioCondition: Site + Landscape	106	75
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	75

Habitat quality score:

7

Site photos



Start point, facing E



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



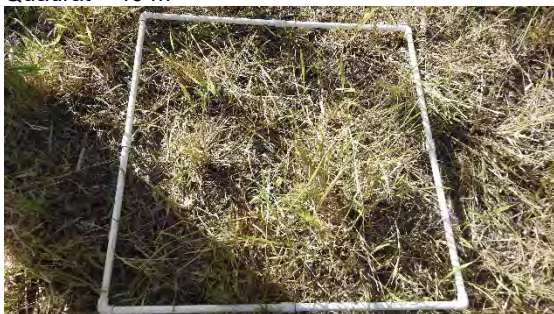
Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.2BC01 – of concern	Assessor – Bruce McLennan
Property: Wynette	Date: 06/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14530; 148.29825
50 m (centre point):	-22.14569; 148.29836
100 m (end point):	-22.14618; 148.29845
Elevation (mAHD):	199
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland on alluvial levee
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	18
Tree canopy (EDL) height (m):	16
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness:	3
<i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia salicina</i>	
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>G. retusifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Ficus opposita</i> , <i>Sida hackettiana</i>	6
Grass spp. richness: <i>Eragrostis elongata</i> , <i>Enteropogon ramosus</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Chrysopogon fallax</i>	7
Forb spp. richness: <i>Heliotropium ovalifolium</i> , <i>Pterocaulon redolens</i> , <i>Desmodium macrocarpum</i> , <i>Waltheria indica</i> , <i>Rhynchosia minima</i> , <i>Vittadinia sp.</i> , <i>Chamaecrista absus</i> , <i>Cyperus sp.</i> , <i>Cyperus exaltatus</i> , <i>Cyperus gracilis</i> , <i>Tephrosia sp.</i> , <i>Dianella nervosa</i> ,	12
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Lantana camara</i> , <i>Scoparia dulcis</i> , <i>Urochloa mosambicensis</i> , <i>Bidens pilosa</i> , <i>Melinis repens</i> , <i>Megathyrsus maximus</i> , <i>Emilia sonchifolia</i> , <i>Sida rhombifolia</i>	20

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	57.5
Shrub canopy cover (100 m canopy intercept)	% cover	9.1
Native perennial grass cover (1 m x 1 m plots)	% cover	27
Litter cover (1 m x 1 m plots)	% cover	66
Coarse woody debris (from 50 m x 20 m plot)	m / ha	140
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	2
Shrubs	no. species	2
Grasses	no. species	9
Forbs	no. species	17
Large eucalypts	no. / ha	22
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	40
Native shrub cover	%	2
Native perennial grass cover	%	35
Organic litter cover	%	30
Coarse woody debris	m / ha	307

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	25
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	3	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	3	Site + landscape	106	82
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	82

Habitat quality score:

8

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.2BC02 – of concern	Assessor – Bruce McLennan	
Property: Winchester Downs	Date: 23/05/2018	
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin	
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.2	
Transect Co-ordinates (Datum) General Site Description		
0 m (start of transect):	-22.12009; 148.27162	
50 m (centre point):	-22.12001; 148.27115	
100 m (end point):	-22.11987; 148.27072	
Elevation (mAHD):	197	
General Site Description		
Landform	Gently undulating plain	
Soil	Sandy loam	
Dominant vegetation observed	Poplar box grassy woodland	
100 x 50 m area (0.5 ha)		
Dominant canopy or EDL species with evidence of recruitment (%):	100	
Eucalypt large tree DBH (cm): (from benchmark document)	40	
Number of large Eucalypt trees:	8	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA	
Number of large Non-Eucalypt trees:		
Total large trees/ha:	16	
Tree canopy (EDL) height (m):	18	
Sub-canopy height (m):	11	
Emergent height (m):	NA	
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Lysiphyllum hookeri</i> , <i>Corymbia clarksoniana</i>	4	
50 x 10 m area		
Shrub spp. richness: <i>L. hookeri</i> , <i>Acacia salicina</i> , <i>A. excelsa</i> , <i>Cassia brewsteri</i>	4	
Grass spp. richness: <i>Chrysopogon fallax</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis lacunaria</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Enneapogon sp.</i> , <i>Aristida holathera</i> .	8	
Forb spp. richness: <i>Fimbristylis dichotoma</i> , <i>Evolvulus alsinoides</i> , <i>Pterocaulon redolens</i> , <i>Chamaecrista absus</i> , <i>Waltheria indica</i>	5	
Other spp.: <i>Cymbidium canaliculatum</i>	1	
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Sida spinescens</i> , <i>Urochloa mosambicensis</i> , <i>Stylosanthes scabra</i> , <i>Melinis repens</i> ,	40	
Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	23.6
Shrub canopy cover (100 m canopy intercept)	% cover	1
Native perennial grass cover (1 m x 1 m plots)	% cover	15
Litter cover (1 m x 1 m plots)	% cover	44
Coarse woody debris (from 50 m x 20 m plot)	m / ha	185

Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	2
Shrubs	no. species	2
Grasses	no. species	9
Forbs	no. species	17
Large eucalypts	no. / ha	22
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	40
Native shrub cover	%	2
Native perennial grass cover	%	35
Organic litter cover	%	30
Coarse woody debris	m / ha	307

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	4
Native plant species richness: Forbs	5	3	Total:	26	23
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	3	Total	50	0
Litter cover	5	5	Site + landscape	106	83
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	83

Habitat quality score:

8

Site photos



Start point, facing WNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC01 – of concern vegetation	Assessor – Bruce McLennan
Property: Wynette	Date: 06/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.27b	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14966; 148.30249
50 m (centre point):	-22.14937; 148.30212
100 m (end point):	-22.14908; 148.30174
Elevation (mAHD):	192
General Site Description	
Landform	Closed depression – flood channel
Soil	Light clay and alluvial sands
Dominant vegetation observed	Coolabah woodland on sedgy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus coolabah</i> , <i>E. tereticornis</i> , <i>Acacia salicina</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Ludwigia octovalvis</i>	1
Grass spp. richness: <i>Diplachne fusca</i> var. <i>fusca</i> , <i>Walwhalleya proluta</i> , <i>Leersia hexandra</i>	3
Forb spp. richness: <i>Eleocharis plana</i> (dominant), <i>Eleocharis philippinensis</i> , <i>Marsilea drummondii</i> , <i>Centipeda minima</i> , <i>Juncus usitatus</i> , <i>Aeschynomene indica</i> , <i>Cyperus victoriensis</i> , <i>Basilicum polystachion</i> , <i>Alternanthera denticulata</i> , <i>Neptunia monosperma</i> , <i>Cyperus</i> sp.,	11
Other spp.:	
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Harrisia martinii</i>	<5

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	48.2
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	12
Litter cover (1 m x 1 m plots)	% cover	0
Coarse woody debris (from 50 m x 20 m plot)	m / ha	130
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	1
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	6
Large eucalypts	no. / ha	28
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	16
Tree canopy cover	%	40
Native shrub cover	%	NA
Native perennial grass cover	%	3
Organic litter cover	%	15
Coarse woody debris	m / ha	530

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	16
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	0	Site + landscape	106	83
Total	80	67	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	83

Habitat quality score:

8

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC02 – of concern vegetation	Assessor – Bruce McLennan
Property: Wynette	Date: 07/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.27b	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.15956; 148.34442
50 m (centre point):	-22.15915; 148.34442
100 m (end point):	-22.15864; 148.34442
Elevation (mAHD):	191
General Site Description	
Landform	Closed depression – flood channel
Soil	Light clay and alluvial sands
Dominant vegetation observed	Forest Red gum woodland on sedgy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	13
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	26
Total large trees/ha:	0
Tree canopy (EDL) height (m):	25
Sub-canopy height (m):	10
Emergent height (m):	NA
Total tree species richness: <i>E. tereticornis</i> , <i>Acacia salicina</i> , <i>E. tereticornis</i> x <i>E. platyphylla</i>	3
50 x 10 m area	
Shrub spp. richness: <i>E. tereticornis</i> , <i>Ludwigia octovalvis</i>	1
Grass spp. richness: <i>Eriochloa procer</i> , <i>Dinebra decipiens</i> , <i>Digitaria sp.</i> , <i>Dichanthium sp.</i> , <i>Eragrostis elongata</i> , <i>Cynodon dactylon</i> , <i>Brachyachne convergens</i>	7
Forb spp. richness: <i>Marsilea mutica</i> , <i>Sesbania cannabina</i> , <i>Juncus usitatus</i> , <i>Aeschynomene indica</i> , <i>Cyperus exaltatus</i> , <i>Basilicum polystachion</i> , <i>Persicaria strigosa</i> , <i>Cucumis argenteus</i>	8
Other spp.:	
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Symphyotrichum subulatum</i> , <i>Melochia pyramidata</i> , <i>Passiflora foetida</i> , <i>Erigeron bonariensis</i> , <i>Xanthium occidentale</i> , <i>Macroptilium lathyroides</i>	5

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	82.4
Shrub canopy cover (100 m canopy intercept)	% cover	1.6
Native perennial grass cover (1 m x 1 m plots)	% cover	16
Litter cover (1 m x 1 m plots)	% cover	66
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	1
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	6
Large eucalypts	no. / ha	46
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	16
Tree canopy cover	%	40
Native shrub cover	%	NA
Native perennial grass cover	%	3
Organic litter cover	%	15
Coarse woody debris	m / ha	530

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	3	Site + landscape	106	88
Total	80	70	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	88

Habitat quality score:

8

Site photos



Start point, facing N



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 4.8BC01 – endangered	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.5.3/11.4.9 (90/10)	Observed RE: 11.4.8
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.11715; 148.23067
50 m (centre point):	-22.11679; 148.23093
100 m (end point):	Not recorded
Elevation (mAHD):	206
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Dawson gum woodland on melon hole clays
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	38
Number of large Eucalypt trees:	3
Non-Eucalypt large tree DBH (cm): (from benchmark document)	22
Number of large Non-Eucalypt trees:	5
Total large trees/ha:	16
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus cambageana</i> , <i>Acacia harpophylla</i> , <i>Lysiphyllum carronii</i> , <i>Eremophila mitchellii</i> , <i>Terminalia oblongata</i> ,	5
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Eremophila mitchellii</i> , <i>L. carronii</i> , <i>Apophyllum anomalum</i> , <i>Ehretia</i> <i>membranifolia</i> , <i>Jasminum didymum subsp. lineare</i> , <i>Abutilon oxycarpum</i>	9
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Enteropogon acicularis</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium sp.</i> ,	4
Forb spp. richness: <i>Hibiscus sturtii</i> , <i>Evolvulus alsinoides</i> , <i>Rostellularia adscendens</i> , <i>Achyranthes</i> <i>aspera</i> , <i>Cheilanthes sieberi</i> , <i>Einadia nutans</i> , <i>Cyperus gracilis</i> , <i>Nyssanthes</i> <i>erecta</i> , <i>Alternanthera denticulata</i> , <i>Melhanian oblongifolia</i> ,	10
Other spp.: <i>Parsonsia lanceolata</i> , <i>Clematicissus opaca</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Harrisia martinii</i> , <i>Malvastrum</i> <i>americanum</i> , <i>Parthenium hysterophorus</i> , <i>Malvastrum coromandelianum</i>	30

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	16.9			
Shrub canopy cover (100 m canopy intercept)	% cover	31.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	7			
Litter cover (1 m x 1 m plots)	% cover	41			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	325			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	10			
Grasses	no. species	9			
Forbs	no. species	7			
Large eucalypts	no. / ha	28			
Large non-eucalypts	no. / ha	42			
Tree canopy median height	M	17			
Tree canopy cover	%	40			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	37			
Coarse woody debris	m / ha	813			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	8
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	3	Quality of foraging	10	
Native perennial grass cover	5	1	Quality of shelter	10	
Large trees	15	5	Mobility	10	
Fallen woody material	5	2	Site location	5	
Weed cover	10	3	Total	50	0
Litter cover	5	5	Site + Landscape	106	57
Total	80	49	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	57

Habitat quality score

5

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 4.9BC01 – endangered	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 06/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.5.3/11.4.9 (90/10), 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.11985; 148.26997
50 m (centre point):	-22.11981; 148.2695
100 m (end point):	-22.11977; 148.26901
Elevation (mAHD):	200
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow woodland on clay plain retreat edge
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Eucalyptus populnea</i> , <i>Lysiphyllum hookeri</i> , <i>Flindersia dissosperma</i> , <i>Alectryon oleifolius</i> , <i>Eucalyptus coolabah</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Eremophila mitchellii</i> , <i>L. hookeri</i> , <i>Apophyllum anomalum</i> , <i>Ehretia membranifolia</i> , <i>Alectryon diversifolius</i> , <i>Enchylaena tomentosa</i> , <i>Citrus glauca</i> , <i>Maireana microphylla</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Terminalia oblongata</i>	13
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium</i> sp., <i>Panicum effusum</i>	5
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Dipteracanthus australasicus</i> , <i>Abutilon</i> sp., <i>Einadia nutans</i> , <i>Achyranthes aspera</i> , <i>Asperula conferta</i> , <i>Nyssanthus erecta</i> , <i>Plectranthus parviflorus</i> , <i>Euphorbia</i> sp. <i>Abutilon</i> sp.	10
Other spp.: <i>Parsonsia lanceolata</i> , <i>P. eucalyptophylla</i> , <i>Marsdenia australis</i> , <i>Cynanchum viminale</i> subsp. <i>brunonianum</i>	4
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Harrisia martinii</i> , <i>Opuntia tomentosa</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i>	60

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	16.5
Shrub canopy cover (100 m canopy intercept)	% cover	11.5
Native perennial grass cover (1 m x 1 m plots)	% cover	1
Litter cover (1 m x 1 m plots)	% cover	23
Coarse woody debris (from 50 m x 20 m plot)	m / ha	240
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	
Shrub layer cover	5	3	Quality of foraging	10	
Native perennial grass cover	5	0	Quality of shelter	10	
Large trees	15	0	Mobility	10	
Fallen woody material	5	2	Site location	5	
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + Landscape	106	54
Total	80	43	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	54

Habitat quality score:

5

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 4.9BC02 – endangered	Assessor – Bruce McLennan
Property: Iffley	Date: 07/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.19296; 148.3465
50 m (centre point):	-22.1926; 148.34676
100 m (end point):	-22.19228; 148.34697
Elevation (mAHD):	192
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow on clay plain - drainage
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	27
Total large trees/ha:	54
Tree canopy (EDL) height (m):	14
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Eucalyptus populnea</i> , <i>Lysiphyllum hookeri</i> , <i>Acacia excelsa</i> , <i>Owenia acidula</i> , <i>Santalum lanceolatum</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>O. acidula</i> , <i>S. lanceolatum</i> , <i>E. populneus</i> , <i>Ehretia membranifolia</i> , <i>A. harpophylla</i> , <i>Enchylaena tomentosa</i> , <i>Abutilon oxycarpum</i>	10
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium sp.</i>	4
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Alternanthera denticulata</i>	2
Other spp.: <i>Parsonsia lanceolata</i> , <i>P. eucalyptophylla</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Lantana camara</i> , <i>Stylosanthes scabra</i>	50

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	49.6
Shrub canopy cover (100 m canopy intercept)	% cover	4.7
Native perennial grass cover (1 m x 1 m plots)	% cover	10
Litter cover (1 m x 1 m plots)	% cover	36
Coarse woody debris (from 50 m x 20 m plot)	m / ha	320
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	8
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	5	Quality of foraging	10	
Native perennial grass cover	5	3	Quality of shelter	10	
Large trees	15	15	Mobility	10	
Fallen woody material	5	2	Site location	5	
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + landscape	106	69
Total	80	61	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	69

Habitat quality score:

7

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 4.9BC03 – endangered	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.4.9	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.11968; 148.21956
50 m (centre point):	-22.11963; 148.22003
100 m (end point):	-22.1196; 148.22047
Elevation (mAHD):	204
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Brigalow, Poplar box and Red bauhinia on light gilgai clay
100 x 25 m area (0.25 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	5
Total large trees/ha:	20
Tree canopy (EDL) height (m):	11
Sub-canopy height (m):	7.5
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Eucalyptus populnea</i> , <i>Lysiphyllum carronii</i> , <i>Casuarina cristata</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Apophyllum anomalum</i> , <i>Carissa ovata</i> , <i>Terminalia oblongata</i> , <i>L. carronii</i> , <i>Alectryon diversifolius</i> , <i>Ehretia membranifolia</i> , <i>Pittosporum spinescens</i> , <i>Enchylaena tomentosa</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Abutilon oxycarpum</i>	11
Grass spp. richness: <i>Ancistrachne uncinulata</i> , <i>Aristida jerichoensis</i> , <i>Enteropogon acicularis</i>	3
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Einadia nutans</i> , , <i>Dysphania</i> sp., <i>Nyssanthes erecta</i> , <i>Salsola australis</i> , <i>Rostellularia adscendens</i> , <i>Abutilon fraseri</i> , <i>Cheilanthes sieberi</i> , <i>Sida</i> sp.	9
Other spp.: <i>Parsonsia lanceolata</i> , <i>Clematicissus opaca</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Sida spinescens</i> , <i>Harrisia martinii</i> , <i>Malvastrum coromandelianum</i> , <i>Megathyrsus maximus</i> , <i>Parthenium hysterophorus</i> , <i>Gomphrena celosioides</i> , <i>Portulaca oleracea</i>	50

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	21.7
Shrub canopy cover (100 m canopy intercept)	% cover	2.5
Native perennial grass cover (1 m x 1 m plots)	% cover	1
Litter cover (1 m x 1 m plots)	% cover	50
Coarse woody debris (from 50 m x 20 m plot)	m / ha	935
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	6
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	0	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + landscape	106	57
Total	80	51	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	57

Habitat quality score:

5

Site photos



Start point, facing E



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.17BC01 – Endangered	Assessor – Bruce McLennan
Property: Iffley	Date: 07/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.17	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.22313; 148.35306
50 m (centre point):	-22.22321; 148.35350
100 m (end point):	-22.22334; 148.35397
Elevation (mAHD):	203
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Grasses and sedges – wetland with mostly dead canopy
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	0
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	6
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	12
Tree canopy (EDL) height (m):	13
Sub-canopy height (m):	Not recorded
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i>	1
50 x 10 m area	
Shrub spp. richness:	0
Grass spp. richness: <i>Brachyachne convergens</i> , <i>Dinebra decipiens</i> , <i>Diplachne fusca</i> var. <i>fusca</i>	3
Forb spp. richness: <i>Ludwigia peploides</i> , <i>Cyperus exaltatus</i> , <i>Persicaria attenuata</i> , <i>Basilicum polystachion</i> , <i>Polygonum plebeium</i> , <i>Eleocharis plana</i> , <i>Glinus lotoides</i>	7
Other spp.:	
Weed spp. and cover as % of area: <i>Echinochloa colona</i> , <i>Stylosanthes scabra</i> , <i>Eclipta prostrata</i> , <i>Cucumis anguria</i> var. <i>anguria</i>	<5

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	0
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	8
Litter cover (1 m x 1 m plots)	% cover	83
Coarse woody debris (from 50 m x 20 m plot)	m / ha	25
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	7
Large eucalypts	no. / ha	29
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	41
Native shrub cover	%	3
Native perennial grass cover	%	20
Organic litter cover	%	31
Coarse woody debris	m / ha	330

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	0	Size of patch	10	0
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	2.5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	9
Tree canopy cover	5	0	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	0	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	0	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	3	Site + landscape	106	48.5
Total	80	39.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	48.5

Habitat quality score:

5

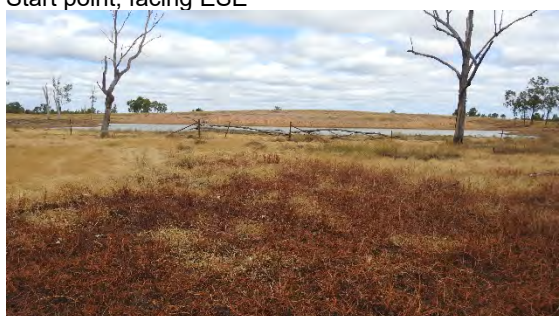
Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.17BC02 – Endangered	Assessor – Bruce McLennan
Property: Wynette	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.17	Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16917; 148.32504
50 m (centre point):	-22.16940; 148.32463
100 m (end point):	-22.16963; 148.32419
Elevation (mAHD):	202
General Site Description	
Landform	Closed depression
Soil	Light clay
Dominant vegetation observed	Forest red gum woodland over a grassy depression
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	3
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	6
Tree canopy (EDL) height (m):	17
Sub-canopy height (m):	6
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Ludwigia octovalvis</i>	1
Grass spp. richness: <i>Eragrostis elongata</i> , <i>Dinebra decipiens</i> , <i>Cynodon dactylon</i>	3
Forb spp. richness: <i>Chamaecrista</i> sp., <i>Cyperus victoriensis</i> , <i>Polygonum plebeium</i> , <i>Cyperus</i> sp., <i>Glinus lotoides</i> , <i>Cyperus difformis</i>	6
Other spp.:	
Weed spp. and cover as % of area: <i>Echinochloa colona</i> , <i>Urochloa mosambicensis</i> , <i>Eclipta prostrata</i> , <i>Lanana montevidensis</i> , <i>Passiflora foetida</i> , <i>Heliotropium indicum</i> , <i>Senna occidentalis</i>	<5

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	7.6
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	42
Litter cover (1 m x 1 m plots)	% cover	19
Coarse woody debris (from 50 m x 20 m plot)	m / ha	735
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	1
Grasses	no. species	3
Forbs	no. species	7
Large eucalypts	no. / ha	29
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	41
Native shrub cover	%	3
Native perennial grass cover	%	20
Organic litter cover	%	3
Coarse woody debris	m / ha	330

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	9
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	0	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	10	Total	50	0
Litter cover	5	5	Site + landscape	106	64
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	64

Habitat quality score:

6

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.8BC01 – connectivity	Assessor – Bruce McLennan
Property: Iffley	Date: 17/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.8c
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.22265; 148.36034
50 m (centre point):	-22.22259; 148.36081
100 m (end point):	-22.22249; 148.36127
Elevation (mAHD):	192
General Site Description	
Landform	Plain
Soil	Weathered pale yellow sands
Dominant vegetation observed	Poplar gum woodland on weathered sands
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	39
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	20
Number of large Non-Eucalypt trees:	2
Total large trees/ha:	4
Tree canopy (EDL) height (m):	10.5
Sub-canopy height (m):	6
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus platyphylla</i> , <i>Grevillea striata</i> , <i>Acacia salicina</i> , <i>Acacia excelsa</i> , <i>Ventilago viminalis</i> , <i>Cassia brewsteri</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>C. brewsteri</i> , <i>Grewia retusifolia</i> , <i>Myoporum acuminatum</i> , <i>Archidendropsis basaltica</i> , <i>Grevillea parallela</i> , <i>A. excelsa</i> , <i>Denhamia cunninghamii</i> , <i>Alphitonia excelsa</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Aristida sp.</i> , <i>Themeda triandra</i> , <i>Heteropogon contortus</i> , <i>Eulalia aurea</i> , <i>Eragrostis sororia</i> , <i>Cymbopogon bombycinus</i> , <i>Aristida sp.</i> , <i>Enneapogon sp.</i> , <i>Aristida ingrata</i>	10
Forb spp. richness: <i>Waltheria indica</i> , <i>Pterocaulon redolens</i> , <i>Zornia sp.</i> , <i>Phyllanthus virgatus</i> , <i>Galactia tenuifolia</i> , <i>Cyperus sp.</i> , <i>Evolvulus alsinoides</i> , <i>Spermacoce brachystema</i>	8
Other spp.: <i>Amyema miquelii</i> ,	1
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Stylosanthes scabra</i> , <i>Sida spinescens</i> , <i>Cenchrus ciliaris</i>	10

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	16.2
Shrub canopy cover (100 m canopy intercept)	% cover	6
Native perennial grass cover (1 m x 1 m plots)	% cover	28
Litter cover (1 m x 1 m plots)	% cover	27
Coarse woody debris (from 50 m x 20 m plot)	m / ha	50
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	7
Grasses	no. species	9
Forbs	no. species	12
Large eucalypts	no. / ha	10
Large non-eucalypts	no. / ha	4
Tree canopy median height	m	13
Tree canopy cover	%	20
Native shrub cover	%	5
Native perennial grass cover	%	34
Organic litter cover	%	36
Coarse woody debris	m / ha	87

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	3	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + landscape	106	75
Total	80	61	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	75

Habitat quality score:

7

Site photos



Start point, facing ENE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.8BC02 – connectivity	Assessor – Bruce McLennan
Property: Iffley	Date: 17/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.8c
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.22538; 148.36424
50 m (centre point):	-22.22545; 148.36465
100 m (end point):	-22.22565; 148.36516
Elevation (mAHD):	192
General Site Description	
Landform	Plain
Soil	Weathered pale yellow sands
Dominant vegetation observed	Poplar gum woodland on weathered sands
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	39
Number of large Eucalypt trees:	1
Non-Eucalypt large tree DBH (cm): (from benchmark document)	20
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	2
Tree canopy (EDL) height (m):	13
Sub-canopy height (m):	6
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus platyphylla</i> , <i>Eucalyptus populnea</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>Petalostigma pubescens</i> , <i>C. brewsteri</i> , <i>Grewia retusifolia</i> , <i>Myoporum acuminatum</i> , <i>Clerodendrum sp.</i> , <i>Grevillea parallela</i> , <i>Alphitonia excelsa</i> , <i>Eremophila debile</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Aristida sp.</i> , <i>Themeda triandra</i> , <i>Heteropogon contortus</i> , <i>Eulalia aurea</i> , <i>Eragrostis sororia</i> , <i>Chrysopogon fallax</i> , <i>Aristida ingrata</i> , <i>Enneapogon sp.</i> , <i>Aristida holosericea</i>	10
Forb spp. richness: <i>Melhanian oblongifolia</i> , <i>Pterocaulon redolens</i> , <i>Rostellularia adscendens</i> , <i>Phyllanthus virgatus</i> , <i>Galactia tenuifolia</i> , <i>Vittadinia sp.</i> , <i>Waltheria indica</i> , <i>Spermocoe brachystema</i>	8
Other spp.: <i>Amyema miquelii</i>	1
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Stylosanthes scabra</i> , <i>Sida spinescens</i> , <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Sida cordifolia</i>	20

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	16.1
Shrub canopy cover (100 m canopy intercept)	% cover	6.5
Native perennial grass cover (1 m x 1 m plots)	% cover	25
Litter cover (1 m x 1 m plots)	% cover	26
Coarse woody debris (from 50 m x 20 m plot)	m / ha	175
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	7
Grasses	no. species	9
Forbs	no. species	12
Large eucalypts	no. / ha	10
Large non-eucalypts	no. / ha	4
Tree canopy median height	m	13
Tree canopy cover	%	20
Native shrub cover	%	5
Native perennial grass cover	%	34
Organic litter cover	%	36
Coarse woody debris	m / ha	87

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	5	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + landscape	106	72
Total	80	58	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	72

Habitat quality score:

7

Site photos



Mid-point, facing north

Start point, facing ESE



Mid-point, facing east

Mid-point, facing south



Quadrat – 30 m

Mid-point, facing west



Quadrat – 50 m

Quadrat – 40 m



Quadrat – 70 m

Quadrat – 60 m

Site: Impact 5.3BC02 – connectivity	Assessor – Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.18526; 148.34521
50 m (centre point):	-22.18554; 148.34563
100 m (end point):	-22.1858; 148.34602
Elevation (mAHD):	198
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box woodland on old sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	4
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	8
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Alphitonia excelsa</i> , <i>Owenia acidula</i> , <i>Corymbia clarksoniana</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Grevillea parallela</i> , <i>Breynia oblongifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Archidendropsis basaltica</i> , <i>Grewia latifolia</i> , <i>Myoporum</i> <i>acuminatum</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida</i> <i>ingrata</i> , <i>Cymbopogon queenslandicus</i> , <i>Enteropogon acicularis</i> , <i>Eragrostis</i> <i>sp.</i> , <i>Aristida sp.</i>	8
Forb spp. richness: <i>Waltheria indica</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Melhania</i> <i>oblongifolia</i> , <i>Rostellularia adscendens</i> , <i>Galactia tenuifolia</i> , <i>Phyllanthus</i> <i>virgata</i>	7
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Stylosanthes</i> <i>scabra</i> , <i>Sida cordifolia</i>	60

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	52.8			
Shrub canopy cover (100 m canopy intercept)	% cover	1.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	11			
Litter cover (1 m x 1 m plots)	% cover	30			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	275			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	6
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	3	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	5	Site + landscape	106	63
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	63

Habitat quality score:

6

Site photos



Start point, facing SE



Mid-point, facing north



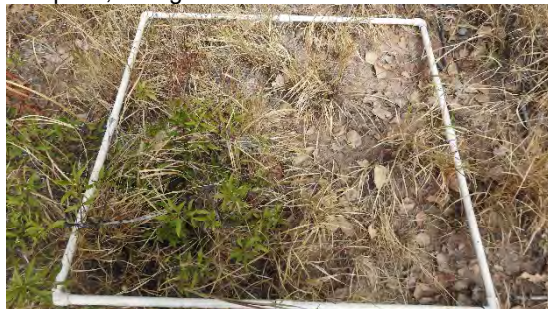
Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC03 – connectivity	Assessor – Bruce McLennan
Property: Wynette	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16472; 148.34341
50 m (centre point):	-22.16505; 148.34305
100 m (end point):	-22.16533; 148.34267
Elevation (mAHD):	194
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box and Dallachy's gum woodland on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	4
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	3
Total large trees/ha:	14
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Alectryon oleifolius</i> , <i>Grevillea parallela</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Grevillea parallela</i> , <i>Breynia oblongifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Grewia retusifolia</i> , <i>Capparis lasiantha</i> , <i>Owenia acidula</i> , <i>Carissa ovata</i> , <i>Alphitonia excelsa</i> , <i>Ehretia membranifolia</i> , <i>Atalaya hemiglaucula</i> , <i>Enchylaena tomentosa</i> , <i>Corymbia dallachiana</i>	15
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida jerichoensis</i> , <i>Cymbopogon queenslandicus</i> , <i>Bothriochloa bladhii</i> , <i>Eulalia aurea</i> , <i>Enneapogon lindleyanus</i> , <i>Aristida personata</i> , <i>Panicum effusum</i>	10
Forb spp. richness: <i>Afrohybanthus enneaspermus</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Melhania oblongifolia</i> , <i>Nyssanthes erecta</i> , <i>Galactia tenuifolia</i> , <i>Rhyncosia minima</i> , <i>Chamaecrista absus</i>	8
Other spp.: <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i>	30

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	24.2
Shrub canopy cover (100 m canopy intercept)	% cover	2.3
Native perennial grass cover (1 m x 1 m plots)	% cover	10
Litter cover (1 m x 1 m plots)	% cover	28
Coarse woody debris (from 50 m x 20 m plot)	m / ha	235
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	6
Shrubs	no. species	6
Grasses	no. species	6
Forbs	no. species	10
Large eucalypts	no. / ha	9
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	16
Tree canopy cover	%	20
Native shrub cover	%	3
Native perennial grass cover	%	19
Organic litter cover	%	20
Coarse woody debris	m / ha	314

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	15
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	5	Quality of foraging	10	0
Native perennial grass cover	5	3	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	3	Total	50	0
Litter cover	5	5	Site + landscape	106	81
Total	80	66	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	81

Habitat quality score:

8

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC04 – connectivity	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.11817; 148.25464
50 m (centre point):	-22.11827; 148.25423
100 m (end point):	-22.11839; 148.25370
Elevation (mAHD):	205
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box grassy woodland on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	18
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	13
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>Cassia brewsteri</i> , <i>Alectryon oleifolius</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>E. populnea</i> , <i>C. brewsteri</i> , <i>Carissa ovata</i> , <i>Ehretia membranifolia</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida holathera</i> , <i>Bothriochloa bladhii</i> , <i>Bothriochloa decipiens</i> , <i>Alloteropsis semialata</i> , <i>Eragrostis sororia</i>	8
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Fimbristylis dichotoma</i> , <i>Achyranthes aspera</i> , <i>Galactia tenuifolia</i> , <i>Phyllanthus virgata</i> , <i>Chamaecrista absus</i>	6
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Sida spinescens</i> , <i>Stylosanthes scabra</i>	50

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	20
Shrub canopy cover (100 m canopy intercept)	% cover	10.9
Native perennial grass cover (1 m x 1 m plots)	% cover	8
Litter cover (1 m x 1 m plots)	% cover	35
Coarse woody debris (from 50 m x 20 m plot)	m / ha	95
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	6
Shrubs	no. species	6
Grasses	no. species	6
Forbs	no. species	10
Large eucalypts	no. / ha	9
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	16
Tree canopy cover	%	20
Native shrub cover	%	3
Native perennial grass cover	%	19
Organic litter cover	%	20
Coarse woody debris	m / ha	314

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	20
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	3	Quality of shelter	10	0
Large trees	15	15	Mobility	10	0
Fallen woody material	5	2	Site location	5	0
Weed cover	10	3	Total	50	0
Litter cover	5	5	Site + landscape	106	82
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	82

Habitat quality score:

8

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.9BC01 – connectivity	Assessor – Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.1963; 148.35268
50 m (centre point):	-22.19591; 148.35249
100 m (end point):	-22.19549; 148.35228
Elevation (mAHD):	203
General Site Description	
Landform	Gently undulating plain
Soil	Red sands
Dominant vegetation observed	Narrow leaved ironbark, Clarkson's bloodwood and Dallachy's gum on weathered sands
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	41
Number of large Eucalypt trees:	1
Non-Eucalypt large tree DBH (cm): (from benchmark document)	21
Number of large Non-Eucalypt trees:	2
Total large trees/ha:	6
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus crebra</i> , <i>Corymbia dallachiana</i> , <i>C. clarksoniana</i> , <i>C. tessellaris</i> , <i>Bursaria incana</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>B. incana</i> , <i>Grewia retusifolia</i> , <i>Alphitonia excelsa</i> , <i>Grewia latifolia</i> , <i>Eremophila debilis</i> , <i>Sida hackettiana</i>	10
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Themeda triandra</i> , <i>Enneapogon</i> sp.	5
Forb spp. richness: <i>Achyranthes aspera</i> , <i>Melhantha oblongifolia</i> , <i>Cyanthillium cinereum</i> , <i>Nyssanthus erecta</i> , <i>Galactia tenuifolia</i> , <i>Calotis cuneifolia</i> , <i>Dianella nervosa</i> , <i>Lomandra confertifolia</i> subsp. <i>pallida</i> , <i>Vittadinia</i> sp., <i>Rhynchosia minima</i>	10
Other spp.:	0
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Sida rhombifolia</i> , <i>Harrisia martinii</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	30.7			
Shrub canopy cover (100 m canopy intercept)	% cover	4			
Native perennial grass cover (1 m x 1 m plots)	% cover	10			
Litter cover (1 m x 1 m plots)	% cover	33			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	260			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	6			
Grasses	no. species	9			
Forbs	no. species	11			
Large eucalypts	no. / ha	19			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	17			
Tree canopy cover	%	25			
Native shrub cover	%	10			
Native perennial grass cover	%	26			
Organic litter cover	%	30			
Coarse woody debris	m / ha	342			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	19
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	1	Quality of shelter	10	0
Large trees	15	5	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	5	Total	50	0
Litter cover	5	5	Site + landscape	106	76
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	76

Habitat quality score (percentage):

7

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.9BC02 - connectivity	Assessor – Bruce McLennan
Property: Wynette	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17054; 148.34081
50 m (centre point):	-22.17097; 148.34074
100 m (end point):	Not recorded
Elevation (mAHD):	200
General Site Description	
Landform	Gently undulating plain
Soil	Red sands
Dominant vegetation observed	Corymbia woodland on deeply weathered red sands
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	41
Number of large Eucalypt trees:	3
Non-Eucalypt large tree DBH (cm): (from benchmark document)	21
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	6
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Corymbia tessellaris</i> , <i>C. dallachiana</i> , <i>C. clarksoniana</i> , <i>Alphitonia excelsa</i> , <i>Petalostigma pubescens</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Acacia salicina</i> , <i>Myoporum acuminatum</i> , <i>Grewia latifolia</i> , <i>Eremophila debilis</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida personata</i>	4
Forb spp. richness: <i>Glycine tomentosa</i> , <i>Melhanina oblongifolia</i> , <i>Cyanthillium cinereum</i> , <i>Vittadinia sulcata</i> , <i>Galactia tenuifolia</i> , <i>Oxalis</i> sp., <i>Euphorbia tannensis</i> subsp. <i>eremophila</i> , <i>Chamaecrista absus</i> , <i>Waltheria indica</i> , <i>Desmodium macrocarpum</i> , <i>Crotalaria mitchellii</i> , <i>Vittadinia</i> sp.	12
Other spp.: <i>Jacquemontia paniculata</i>	1
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Sida rhombifolia</i> , <i>Sida spinescens</i> , <i>Lantana camara</i> ,	30

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	26.4
Shrub canopy cover (100 m canopy intercept)	% cover	2.2
Native perennial grass cover (1 m x 1 m plots)	% cover	18
Litter cover (1 m x 1 m plots)	% cover	37
Coarse woody debris (from 50 m x 20 m plot)	m / ha	560
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	6
Grasses	no. species	9
Forbs	no. species	11
Large eucalypts	no. / ha	19
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	17
Tree canopy cover	%	25
Native shrub cover	%	10
Native perennial grass cover	%	26
Organic litter cover	%	30
Coarse woody debris	m / ha	342

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	3	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	20
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	
Shrub layer cover	5	3	Quality of foraging	10	
Native perennial grass cover	5	3	Quality of shelter	10	
Large trees	15	5	Mobility	10	
Fallen woody material	5	5	Site location	5	
Weed cover	10	3	Total	50	0
Litter cover	5	5	Site + landscape	106	75
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	75

Habitat quality score:

7

Site photos



Start point, facing S



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.2BC01 – Greater glider habitat	Assessor – Bruce McLennan
Property: Wynette	Date: 06/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14530; 148.29825
50 m (centre point):	-22.14569; 148.29836
100 m (end point):	-22.14618; 148.29845
Elevation (mAHD):	199
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland on alluvial levee
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	18
Tree canopy (EDL) height (m):	16
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness:	3
<i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia salicina</i>	
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>G. retusifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Ficus opposita</i> , <i>Sida hackettiana</i>	6
Grass spp. richness: <i>Eragrostis elongata</i> , <i>Enteropogon ramosus</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Chrysopogon fallax</i>	7
Forb spp. richness: <i>Heliotropium ovalifolium</i> , <i>Pterocaulon redolens</i> , <i>Desmodium macrocarpum</i> , <i>Waltheria indica</i> , <i>Rhynchosia minima</i> , <i>Vittadinia sp.</i> , <i>Chamaecrista absus</i> , <i>Cyperus sp.</i> , <i>Cyperus exaltatus</i> , <i>Cyperus gracilis</i> , <i>Tephrosia sp.</i> , <i>Dianella nervosa</i>	12
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Lantana camara</i> , <i>Scoparia dulcis</i> , <i>Urochloa mosambicensis</i> , <i>Bidens pilosa</i> , <i>Melinis repens</i> , <i>Megathyrsus maximus</i> , <i>Emilia sonchifolia</i> , <i>Sida rhombifolia</i>	20

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	57.5
Shrub canopy cover (100 m canopy intercept)	% cover	9.1
Native perennial grass cover (1 m x 1 m plots)	% cover	27
Litter cover (1 m x 1 m plots)	% cover	66
Coarse woody debris (from 50 m x 20 m plot)	m / ha	140
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	2
Shrubs	no. species	2
Grasses	no. species	9
Forbs	no. species	17
Large eucalypts	no. / ha	22
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	40
Native shrub cover	%	2
Native perennial grass cover	%	35
Organic litter cover	%	30
Coarse woody debris	m / ha	307

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	25
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	3	Quality of shelter	10	1
Large trees	15	10	Mobility	10	7
Fallen woody material	5	2	Site location	5	4
Weed cover	10	5	Total	50	29
Litter cover	5	3	Site + landscape	106	82
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	111

Habitat quality score:

7

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.2BC02 – greater glider habitat	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.12009; 148.27162
50 m (centre point):	-22.12001; 148.27115
100 m (end point):	-22.11987; 148.27072
Elevation (mAHD):	197
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box grassy woodland
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	8
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	16
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	11
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Lysiphyllum hookeri</i> , <i>Corymbia clarksoniana</i>	4
50 x 10 m area	
Shrub spp. richness: <i>L. hookeri</i> , <i>Acacia salicina</i> , <i>A. excelsa</i> , <i>Cassia brewsteri</i>	4
Grass spp. richness: <i>Chrysopogon fallax</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis lacunaria</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Enneapogon sp.</i> , <i>Aristida holathera</i>	8
Forb spp. richness: <i>Fimbristylis dichotoma</i> , <i>Evolvulus alsinoides</i> , <i>Pterocaulon redolens</i> , <i>Chamaecrista absus</i> , <i>Waltheria indica</i>	5
Other spp.: <i>Cymbidium canaliculatum</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Sida spinescens</i> , <i>Urochloa mosambicensis</i> , <i>Stylosanthes scabra</i> , <i>Melinis repens</i>	40

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	23.6
Shrub canopy cover (100 m canopy intercept)	% cover	1
Native perennial grass cover (1 m x 1 m plots)	% cover	15
Litter cover (1 m x 1 m plots)	% cover	44
Coarse woody debris (from 50 m x 20 m plot)	m / ha	185
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	2
Shrubs	no. species	2
Grasses	no. species	9
Forbs	no. species	17
Large eucalypts	no. / ha	22
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	40
Native shrub cover	%	2
Native perennial grass cover	%	35
Organic litter cover	%	30
Coarse woody debris	m / ha	307

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	4
Native plant species richness: Forbs	5	3	Total:	26	23
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	28
Litter cover	5	5	Site + landscape	106	83
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	111

Habitat quality score:

7

Site photos



Start point, facing WNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.25BC01 – Greater glider habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 17/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.25	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16626; 148.38077
50 m (centre point):	-22.16641; 148.38126
100 m (end point):	Not recorded
Elevation (mAHD):	185
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum and River she oak on watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	13
Total large trees/ha:	44
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Casuarina cunninghamiana</i> , <i>Melaleuca linariifolia</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Lysiphyllum hookeri</i> , <i>Ficus opposita</i> , <i>Atalaya hemiglauca</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Grewia latifolia</i>	5
Grass spp. richness: <i>Chrysopogon fallax</i>	1
Forb spp. richness: <i>Pterocaulon redolens</i>	1
Other spp.: <i>Parsonsia lanceolata</i> , <i>Eustrephus latifolius</i> , <i>Cymbidium canaliculatum</i>	3
Weed spp. and cover as % of area: <i>Megathyrsus maximus</i> , <i>Cenchrus ciliaris</i> , <i>Melinis repens</i> , <i>Lantana camara</i> , <i>Stachytarpheta cayennensis</i>	90

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	85.2
Shrub canopy cover (100 m canopy intercept)	% cover	5.7
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	30
Coarse woody debris (from 50 m x 20 m plot)	m / ha	110
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	4
Shrubs	no. species	2
Grasses	no. species	8
Forbs	no. species	12
Large eucalypts	no. / ha	14
Large non-eucalypts	no. / ha	7
Tree canopy median height	m	23
Tree canopy cover	%	22
Native shrub cover	%	1
Native perennial grass cover	%	12
Organic litter cover	%	15
Coarse woody debris	m / ha	375

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	22
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	0	Quality of shelter	10	10
Large trees	15	15	Mobility	10	10
Fallen woody material	5	5	Site location	5	4
Weed cover	10	0	Total	50	41
Litter cover	5	3	Site + Landscape	106	77
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	118

Habitat quality score:

8

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.25BC02 – Greater glider habitat		Assessor – Bruce McLennan	
Property: Winchester Downs		Date: 23/05/2018	
Bioregion: Brigalow Belt		Sub-region: Northern Bowen Basin	
State mapped RE: 11.3.25		Observed RE: 11.3.25	
Transect Co-ordinates (Datum) General Site Description			
0 m (start of transect):		-22.1215; 148.17401	
50 m (centre point):		-22.12112; 148.17416	
100 m (end point):		-22.12069; 148.17436	
Elevation (mAHD):		200	
General Site Description			
Landform		Stream channel and banks	
Soil		Sand	
Dominant vegetation observed		Forest red gum and River she oak on creek channels	
100 x 50 m area (0.5 ha)			
Dominant canopy or EDL species with evidence of recruitment (%):		100	
Eucalypt large tree DBH (cm): (from benchmark document)		49	
Number of large Eucalypt trees:		2	
Non-Eucalypt large tree DBH (cm): (from benchmark document)		29	
Number of large Non-Eucalypt trees:		3	
Total large trees/ha:		10	
Tree canopy (EDL) height (m):		20	
Sub-canopy height (m):		14	
Emergent height (m):		NA	
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Casuarina cunninghamiana</i> , <i>Melaleuca bracteata</i> , <i>Lysiphyllum hookeri</i> , <i>Corymbia clarksoniana</i>		6	
50 x 10 m area			
Shrub spp. richness: <i>Lysiphyllum hookeri</i> , <i>Acacia salicina</i> , <i>Atalaya hemiglauca</i> , <i>Maireana microphylla</i>		4	
Grass spp. richness: <i>Chrysopogon fallax</i>		1	
Forb spp. richness: <i>Nyssanthes erecta</i> , <i>Oxalis</i> sp., <i>Rostellularia adscendens</i> , <i>Melhania oblongifolia</i> , <i>Cucumis</i> sp., <i>Evolvulus alsinoides</i> , <i>Vittadinia</i> sp., <i>Einadia</i> sp.		8	
Other spp.:		0	
Weed spp. and cover as % of area: <i>Megathyrsus maximus</i> , <i>Sida coromandelianum</i> , <i>Parthenium hysterophorus</i> , <i>Stylosanthes scabra</i> , <i>Cenchrus ciliaris</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Melinis repens</i> , <i>Sida cordifolia</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pilosa</i> , <i>Sida spinescens</i> , <i>Emilia sonchifolia</i> , <i>Tridax procumbens</i>		90	

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	57.5
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	60
Coarse woody debris (from 50 m x 20 m plot)	m / ha	360
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	4
Shrubs	no. species	2
Grasses	no. species	8
Forbs	no. species	12
Large eucalypts	no. / ha	14
Large non-eucalypts	no. / ha	7
Tree canopy median height	m	23
Tree canopy cover	%	22
Native shrub cover	%	1
Native perennial grass cover	%	12
Organic litter cover	%	15
Coarse woody debris	m / ha	375

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	26
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	0	Total	50	28
Litter cover	5	3	Site + Landscape	106	73
Total	80	47	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	101

Habitat quality score:

6

Site photos



Start point, facing NNE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC01 – greater glider habitat	Assessor: Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17296; 148.37563
50 m (centre point):	-22.1733; 148.3759
100 m (end point):	Not recorded
Elevation (mAHD):	187
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box and Dallachy's gum woodland on light clay plain
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	4
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	8
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia salicina</i> , <i>Owenia acidula</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Eremophila mitchellii</i> , <i>Capparis umbonata</i> , <i>Capparis arborea</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Carissa ovata</i> , <i>Archidendropsis basaltica</i> , <i>Atalaya hemiglauc</i> , <i>Grewia latifolia</i> , <i>Myoporum acuminatum</i> , <i>Eremophila debile</i>	12
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Themeda triandra</i> , <i>Enneapogon</i> sp., <i>Eulalia aurea</i> , <i>Bothriochloa decipiens</i> , <i>Eragrostis sororia</i> , <i>Sporobolus caroli</i> , <i>Panicum effusum</i> , <i>Enteropogon ramosus</i> , <i>Enneapogon avenaceus</i>	12
Forb spp. richness: <i>Apowollastonia spilanthisoides</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Cyperus gracilis</i> , <i>Rostellularia adscendens</i> , <i>Boerhavia drummondii</i> , <i>Dianella nervosa</i> , <i>Alternanthera nana</i> , <i>Vittadinia pustula</i> , <i>Rhynchosia minima</i>	10
Other spp.:	0
Weed spp. and cover as % of area: <i>Lantana camara</i> , <i>Malvastrum americanum</i> , <i>Sida rhombifolia</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	40.3			
Shrub canopy cover (100 m canopy intercept)	% cover	8.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	31			
Litter cover (1 m x 1 m plots)	% cover	41			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	235			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	6
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	5	Total	50	36
Litter cover	5	3	Site + landscape	106	70
Total	80	64	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	106

Habitat quality score:

7

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC02 – greater glider habitat	Assessor: Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.18526; 148.34521
50 m (centre point):	-22.18554; 148.34563
100 m (end point):	-22.1858; 148.34602
Elevation (mAHD):	198
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box woodland on old sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	4
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	8
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Alphitonia excelsa</i> , <i>Owenia acidula</i> , <i>Corymbia clarksoniana</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Grevillea parallela</i> , <i>Breynia oblongifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> <i>subsp. lineare</i> , <i>Archidendropsis basaltica</i> , <i>Grewia latifolia</i> , <i>Myoporum</i> <i>acuminatum</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida</i> <i>ingrata</i> , <i>Cymbopogon queenslandicus</i> , <i>Enteropogon acicularis</i> , <i>Eragrostis sp.</i> , <i>Aristida sp.</i>	8
Forb spp. richness: <i>Waltheria indica</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Melhania</i> <i>oblongifolia</i> , <i>Rostellularia adscendens</i> , <i>Galactia tenuifolia</i> , <i>Phyllanthus virgata</i>	7
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Stylosanthes</i> <i>scabra</i> , <i>Sida cordifolia</i>	60

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	52.8			
Shrub canopy cover (100 m canopy intercept)	% cover	1.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	11			
Litter cover (1 m x 1 m plots)	% cover	30			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	275			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	6
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	1
Native perennial grass cover	5	3	Quality of shelter	10	5
Large trees	15	10	Mobility	10	4
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	18
Litter cover	5	5			
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	81

Habitat quality score:

5

Site photos



Start point, facing SE



Mid-point, facing north



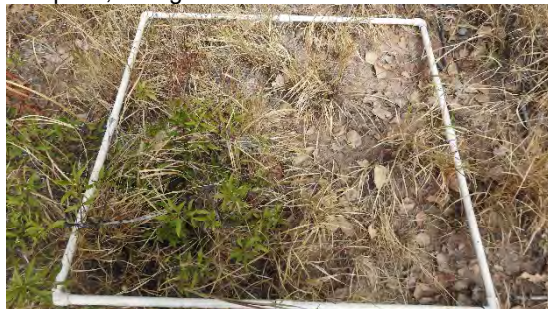
Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC03 – greater glider habitat		Assessor: Bruce McLennan
Property: Wynette		Date: 19/05/2018
Bioregion: Brigalow Belt		Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)		Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description		
0 m (start of transect):		-22.16472; 148.34341
50 m (centre point):		-22.16505; 148.34305
100 m (end point):		-22.16533; 148.34267
Elevation (mAHD):		194
General Site Description		
Landform		Gently undulating plain
Soil		Sandy light clay
Dominant vegetation observed		Poplar box and Dallachy's gum woodland on sand plains
100 x 50 m area (0.5 ha)		
Dominant canopy or EDL species with evidence of recruitment (%):		100
Eucalypt large tree DBH (cm): (from benchmark document)		44
Number of large Eucalypt trees:		4
Non-Eucalypt large tree DBH (cm): (from benchmark document)		34
Number of large Non-Eucalypt trees:		3
Total large trees/ha:		14
Tree canopy (EDL) height (m):		15
Sub-canopy height (m):		8
Emergent height (m):		NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Alectryon oleifolius</i> , <i>Grevillea parallela</i>		6
50 x 10 m area		
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Grevillea parallela</i> , <i>Breynia oblongifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Grewia retusifolia</i> , <i>Capparis lasiantha</i> , <i>Owenia acidula</i> , <i>Carissa ovata</i> , <i>Alphitonia excelsa</i> , <i>Ehretia membranifolia</i> , <i>Atalaya hemiglauca</i> , <i>Enchylaena tomentosa</i> , <i>Corymbia dallachiana</i>		15
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida jerichoensis</i> , <i>Cymbopogon queenslandicus</i> , <i>Bothriochloa bladhii</i> , <i>Eulalia aurea</i> , <i>Enneapogon lindleyanus</i> , <i>Aristida personata</i> , <i>Panicum effusum</i>		10
Forb spp. richness: <i>Afrohybanthus enneaspermus</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Melhantha oblongifolia</i> , <i>Nyssanthus erecta</i> , <i>Galactia tenuifolia</i> , <i>Rhyncosia minima</i> , <i>Chamaecrista absus</i>		8
Other spp.: <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>		2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i>		30

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	24.2			
Shrub canopy cover (100 m canopy intercept)	% cover	2.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	10			
Litter cover (1 m x 1 m plots)	% cover	28			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	235			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	15
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	1
Native perennial grass cover	5	3	Quality of shelter	10	5
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	4
Weed cover	10	3	Total	50	27
Litter cover	5	5	Site + landscape	106	81
Total	80	66	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	108

Habitat quality score:

7

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC04 – greater glider habitat	Assessor: Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.11817; 148.25464
50 m (centre point):	-22.11827; 148.25423
100 m (end point):	-22.11839; 148.2537
Elevation (mAHD):	205
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box grassy woodland on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	18
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	13
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>Cassia brewsteri</i> , <i>Alectryon oleifolius</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>E. populnea</i> , <i>C. brewsteri</i> , <i>Carissa ovata</i> , <i>Ehretia membranifolia</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida holathera</i> , <i>Bothriochloa bladhii</i> , <i>Bothriochloa decipiens</i> , <i>Alloteropsis semialata</i> , <i>Eragrostis sororia</i>	8
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Fimbristylis dichotoma</i> , <i>Achyranthes aspera</i> , <i>Galactia tenuifolia</i> , <i>Phyllanthus virgata</i> , <i>Chamaecrista absus</i>	6
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Sida spinescens</i> , <i>Stylosanthes scabra</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	20			
Shrub canopy cover (100 m canopy intercept)	% cover	10.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	8			
Litter cover (1 m x 1 m plots)	% cover	35			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	95			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	20
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	3	Quality of shelter	10	1
Large trees	15	15	Mobility	10	10
Fallen woody material	5	2	Site location	5	1
Weed cover	10	3	Total	50	20
Litter cover	5	5	Site + landscape	106	82
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	102

Habitat quality score:

7

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.9BC01 – greater glider habitat		Assessor: Bruce McLennan	
Property: Iffley		Date: 16/05/2018	
Bioregion: Brigalow Belt		Sub-region: Isaac – Comet Downs	
State mapped RE: 11.5.3/11.4.9 (95/5)		Observed RE: 11.5.9	
Transect Co-ordinates (Datum) General Site Description			
0 m (start of transect):		-22.1963; 148.35268	
50 m (centre point):		-22.19591; 148.35249	
100 m (end point):		-22.19549; 148.35228	
Elevation (mAHD):		203	
General Site Description			
Landform		Gently undulating plain	
Soil		Red sands	
Dominant vegetation observed		Narrow leaved ironbark, Clarkson's bloodwood and Dallachy's gum on weathered sands	
100 x 50 m area (0.5 ha)			
Dominant canopy or EDL species with evidence of recruitment (%):		100	
Eucalypt large tree DBH (cm): (from benchmark document)		41	
Number of large Eucalypt trees:		1	
Non-Eucalypt large tree DBH (cm): (from benchmark document)		21	
Number of large Non-Eucalypt trees:		2	
Total large trees/ha:		6	
Tree canopy (EDL) height (m):		20	
Sub-canopy height (m):		9	
Emergent height (m):		NA	
Total tree species richness: <i>Eucalyptus crebra</i> , <i>Corymbia dallachiana</i> , <i>C. clarksoniana</i> , <i>C. tessellaris</i> , <i>Bursaria incana</i>		5	
50 x 10 m area			
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>B. incana</i> , <i>Grewia retusifolia</i> , <i>Alphitonia excelsa</i> , <i>Grewia latifolia</i> , <i>Eremophila debilis</i> , <i>Sida hackettiana</i>		10	
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Themeda triandra</i> , <i>Enneapogon</i> sp.		5	
Forb spp. richness: <i>Achyranthes aspera</i> , <i>Melhania oblongifolia</i> , <i>Cyanthillium cinereum</i> , <i>Nyssanthes erecta</i> , <i>Galactia tenuifolia</i> , <i>Calotis cuneifolia</i> , <i>Dianella nervosa</i> , <i>Lomandra confertifolia</i> subsp. <i>pallida</i> , <i>Vittadinia</i> sp., <i>Rhynchosia minima</i>		10	
Other spp.:		0	
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Sida rhombifolia</i> , <i>Harrisia martinii</i>		20	

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	30.7			
Shrub canopy cover (100 m canopy intercept)	% cover	4			
Native perennial grass cover (1 m x 1 m plots)	% cover	10			
Litter cover (1 m x 1 m plots)	% cover	33			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	260			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	6			
Grasses	no. species	9			
Forbs	no. species	11			
Large eucalypts	no. / ha	19			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	17			
Tree canopy cover	%	25			
Native shrub cover	%	10			
Native perennial grass cover	%	26			
Organic litter cover	%	30			
Coarse woody debris	m / ha	342			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	19
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	5	Mobility	10	4
Fallen woody material	5	5	Site location	5	1
Weed cover	10	5	Total	50	22
Litter cover	5	5	Site + landscape	106	76
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	98

Habitat quality score:

6

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.9BC02 – greater glider habitat	Assessor: Bruce McLennan
Property: Wynette	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17054; 148.34081
50 m (centre point):	-22.17097; 148.34074
100 m (end point):	Not recorded
Elevation (mAHD):	200
General Site Description	
Landform	Gently undulating plain
Soil	Red sands
Dominant vegetation observed	Corymbia woodland on deeply weathered red sands
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	41
Number of large Eucalypt trees:	3
Non-Eucalypt large tree DBH (cm): (from benchmark document)	21
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	6
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Corymbia tessellaris</i> , <i>C. dallachiana</i> , <i>C. clarksoniana</i> , <i>Alphitonia excelsa</i> , <i>Petalostigma pubescens</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Acacia salicina</i> , <i>Myoporum acuminatum</i> , <i>Grewia latifolia</i> , <i>Eremophila debilis</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida personata</i>	4
Forb spp. richness: <i>Glycine tomentosa</i> , <i>Melhanina oblongifolia</i> , <i>Cyanthillium cinereum</i> , <i>Vittadinia sulcata</i> , <i>Galactia tenuifolia</i> , <i>Oxalis</i> sp., <i>Euphorbia tannensis</i> subsp. <i>eremophila</i> , <i>Chamaecrista</i> <i>absus</i> , <i>Waltheria indica</i> , <i>Desmodium macrocarpum</i> , <i>Crotalaria mitchellii</i> , <i>Vittadinia</i> sp.	12
Other spp.: <i>Jacquemontia paniculata</i>	1
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Sida rhombifolia</i> , <i>Sida</i> <i>spinescens</i> , <i>Lantana camara</i>	30

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	26.4
Shrub canopy cover (100 m canopy intercept)	% cover	2.2
Native perennial grass cover (1 m x 1 m plots)	% cover	18
Litter cover (1 m x 1 m plots)	% cover	37
Coarse woody debris (from 50 m x 20 m plot)	m / ha	560
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	6
Grasses	no. species	9
Forbs	no. species	11
Large eucalypts	no. / ha	19
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	17
Tree canopy cover	%	25
Native shrub cover	%	10
Native perennial grass cover	%	26
Organic litter cover	%	30
Coarse woody debris	m / ha	342

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	3	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	20
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	3	Quality of shelter	10	1
Large trees	15	5	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	28
Litter cover	5	5	Site + landscape	106	75
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	103

Habitat quality score:

7

Site photos



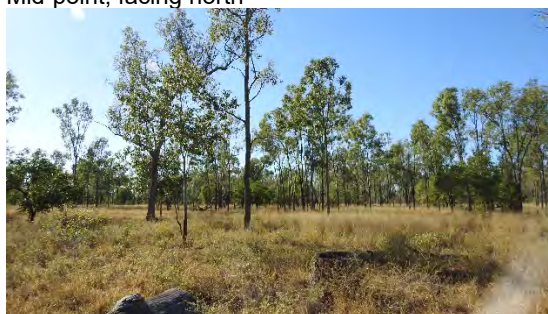
Start point, facing S



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.2BC01 – Koala habitat	Assessor – Bruce McLennan (Arcadian Ecology)
Property: Wynette	Date: 06/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14530; 148.29825
50 m (centre point):	-22.14569; 148.29836
100 m (end point):	-22.14618; 148.29845
Elevation (mAHD):	199
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland on alluvial levee
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	18
Tree canopy (EDL) height (m):	16
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness:	3
<i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia salicina</i>	
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>G. retusifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Ficus opposita</i> , <i>Sida hackettiana</i>	6
Grass spp. richness: <i>Eragrostis elongata</i> , <i>Enteropogon ramosus</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Chrysopogon fallax</i>	7
Forb spp. richness: <i>Heliotropium ovalifolium</i> , <i>Pterocaulon redolens</i> , <i>Desmodium macrocarpum</i> , <i>Waltheria indica</i> , <i>Rhynchosia minima</i> , <i>Vittadinia sp.</i> , <i>Chamaecrista absus</i> , <i>Cyperus sp.</i> , <i>Cyperus exaltatus</i> , <i>Cyperus gracilis</i> , <i>Tephrosia sp.</i> , <i>Dianella nervosa</i>	12
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Lantana camara</i> , <i>Scoparia dulcis</i> , <i>Urochloa mosambicensis</i> , <i>Bidens pilosa</i> , <i>Melinis repens</i> , <i>Megathyrsus maximus</i> , <i>Emilia sonchifolia</i> , <i>Sida rhombifolia</i>	20

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	57.5
Shrub canopy cover (100 m canopy intercept)	% cover	9.1
Native perennial grass cover (1 m x 1 m plots)	% cover	27
Litter cover (1 m x 1 m plots)	% cover	66
Coarse woody debris (from 50 m x 20 m plot)	m / ha	140
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	2
Shrubs	no. species	2
Grasses	no. species	9
Forbs	no. species	17
Large eucalypts	no. / ha	22
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	40
Native shrub cover	%	2
Native perennial grass cover	%	35
Organic litter cover	%	30
Coarse woody debris	m / ha	307

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	25
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	3	Quality of shelter	10	10
Large trees	15	10	Mobility	10	7
Fallen woody material	5	2	Site location	5	5
Weed cover	10	5	Total	50	39
Litter cover	5	3	Site + landscape	106	82
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	121

Habitat quality score:

8

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.2BC02 – Koala habitat	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.12009; 148.27162
50 m (centre point):	-22.12001; 148.27115
100 m (end point):	-22.11987; 148.27072
Elevation (mAHD):	197
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box grassy woodland
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	8
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	16
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	11
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Lysiphyllum hookeri</i> , <i>Corymbia clarksoniana</i>	4
50 x 10 m area	
Shrub spp. richness: <i>L. hookeri</i> , <i>Acacia salicina</i> , <i>A. excelsa</i> , <i>Cassia brewsteri</i>	4
Grass spp. richness: <i>Chrysopogon fallax</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis lacunaria</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Enneapogon sp.</i> , <i>Aristida holathera</i>	8
Forb spp. richness: <i>Fimbristylis dichotoma</i> , <i>Evolvulus alsinoides</i> , <i>Pterocaulon redolens</i> , <i>Chamaecrista absus</i> , <i>Waltheria indica</i>	5
Other spp.: <i>Cymbidium canaliculatum</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Sida spinescens</i> , <i>Urochloa mosambicensis</i> , <i>Stylosanthes scabra</i> , <i>Melinis repens</i>	40

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	23.6
Shrub canopy cover (100 m canopy intercept)	% cover	1
Native perennial grass cover (1 m x 1 m plots)	% cover	15
Litter cover (1 m x 1 m plots)	% cover	44
Coarse woody debris (from 50 m x 20 m plot)	m / ha	185
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	2
Shrubs	no. species	2
Grasses	no. species	9
Forbs	no. species	17
Large eucalypts	no. / ha	22
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	40
Native shrub cover	%	2
Native perennial grass cover	%	35
Organic litter cover	%	30
Coarse woody debris	m / ha	307

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	4
Native plant species richness: Forbs	5	3	Total:	26	23
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	1	Quality of shelter	10	5
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	28
Litter cover	5	5	Site + landscape	106	83
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	111

Habitat quality score:

7

Site photos



Start point, facing WNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.25BC01 – Koala habitat	Assessor – Bruce McLennan
Property: Deverill	Date: 17/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.25	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16626; 148.38077
50 m (centre point):	-22.16641; 148.38126
100 m (end point):	Not recorded
Elevation (mAHD):	185
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum and River she oak on watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	13
Total large trees/ha:	44
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Casuarina cunninghamiana</i> , <i>Melaleuca linariifolia</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Lysiphyllum hookeri</i> , <i>Ficus opposita</i> , <i>Atalaya hemiglauca</i> , <i>Jasminum</i> <i>didymum</i> subsp. <i>lineare</i> , <i>Grewia latifolia</i>	5
Grass spp. richness: <i>Chrysopogon fallax</i>	1
Forb spp. richness: <i>Pterocaulon redolens</i>	1
Other spp.: <i>Parsonsia lanceolata</i> , <i>Eustrephus latifolius</i> , <i>Cymbidium canaliculatum</i>	3
Weed spp. and cover as % of area: <i>Megathyrsus maximus</i> , <i>Cenchrus ciliaris</i> , <i>Melinis repens</i> , <i>Lantana camara</i> , <i>Stachytarpheta cayennensis</i>	90

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	85.2
Shrub canopy cover (100 m canopy intercept)	% cover	5.7
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	30
Coarse woody debris (from 50 m x 20 m plot)	m / ha	110
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	4
Shrubs	no. species	2
Grasses	no. species	8
Forbs	no. species	12
Large eucalypts	no. / ha	14
Large non-eucalypts	no. / ha	7
Tree canopy median height	m	23
Tree canopy cover	%	22
Native shrub cover	%	1
Native perennial grass cover	%	12
Organic litter cover	%	15
Coarse woody debris	m / ha	375

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	22
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	0	Quality of shelter	10	10
Large trees	15	15	Mobility	10	10
Fallen woody material	5	5	Site location	5	4
Weed cover	10	0	Total	50	41
Litter cover	5	3	Site + Landscape	106	77
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	118

Habitat quality score:

8

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.25BC02 – Koala habitat	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.25	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.1215; 148.17401
50 m (centre point):	-22.12112; 148.17416
100 m (end point):	-22.12069; 148.17436
Elevation (mAHD):	200
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum and River she oak on creek channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	2
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	3
Total large trees/ha:	10
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	14
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Casuarina cunninghamiana</i> , <i>Melaleuca bracteata</i> , <i>Lysiphyllum hookeri</i> , <i>Corymbia clarksoniana</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Lysiphyllum hookeri</i> , <i>Acacia salicina</i> , <i>Atalaya hemiglaucula</i> , <i>Maireana microphylla</i>	4
Grass spp. richness: <i>Chrysopogon fallax</i>	1
Forb spp. richness: <i>Nyssanthus erecta</i> , <i>Oxalis</i> sp., <i>Rostellularia adscendens</i> , <i>Melhania oblongifolia</i> , <i>Cucumis</i> sp., <i>Evolvulus alsinoides</i> , <i>Vittadinia</i> sp., <i>Einadia</i> sp.	8
Other spp.:	0
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Sida coromandelianum</i> , <i>Parthenium hysterophorus</i> , <i>Stylosanthes scabra</i> , <i>Cenchrus ciliaris</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Melinis repens</i> , <i>Sida cordifolia</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pilosa</i> , <i>Sida spinescens</i> , <i>Emilia sonchifolia</i> , <i>Tridax procumbens</i>	90

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	57.5
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	60
Coarse woody debris (from 50 m x 20 m plot)	m / ha	360
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	4
Shrubs	no. species	2
Grasses	no. species	8
Forbs	no. species	12
Large eucalypts	no. / ha	14
Large non-eucalypts	no. / ha	7
Tree canopy median height	m	23
Tree canopy cover	%	22
Native shrub cover	%	1
Native perennial grass cover	%	12
Organic litter cover	%	15
Coarse woody debris	m / ha	375

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	26
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	0	Total	50	28
Litter cover	5	3	Site + Landscape	106	73
Total	80	47	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	101

Habitat quality score:

6

Site photos



Start point, facing NNE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC01 – koala habitat	Assessor: Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17296; 148.37563
50 m (centre point):	-22.1733; 148.3759
100 m (end point):	Not recorded
Elevation (mAHD):	187
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box and Dallachy's gum woodland on light clay plain
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	4
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	8
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia salicina</i> , <i>Owenia acidula</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Eremophila mitchellii</i> , <i>Capparis umbonata</i> , <i>Capparis arborea</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Carissa ovata</i> , <i>Archidendropsis basaltica</i> , <i>Atalaya hemiglauc</i> , <i>Grewia latifolia</i> , <i>Myoporum acuminatum</i> , <i>Eremophila debile</i>	12
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Themeda triandra</i> , <i>Enneapogon</i> sp., <i>Eulalia aurea</i> , <i>Bothriochloa decipiens</i> , <i>Eragrostis sororia</i> , <i>Sporobolus caroli</i> , <i>Panicum effusum</i> , <i>Enteropogon ramosus</i> , <i>Enneapogon avenaceus</i>	12
Forb spp. richness: <i>Apowollastonia spilanthis</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Cyperus gracilis</i> , <i>Rostellularia adscendens</i> , <i>Boerhavia drummondii</i> , <i>Dianella nervosa</i> , <i>Alternanthera nana</i> , <i>Vittadinia pustula</i> , <i>Rhynchosia minima</i>	10
Other spp.:	0
Weed spp. and cover as % of area: <i>Lantana camara</i> , <i>Malvastrum americanum</i> , <i>Sida rhombifolia</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	40.3			
Shrub canopy cover (100 m canopy intercept)	% cover	8.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	31			
Litter cover (1 m x 1 m plots)	% cover	41			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	235			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	6
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	5	Total	50	28
Litter cover	5	3	Site + landscape	106	70
Total	80	64	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	98

Habitat quality score:

6

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC02 – koala habitat	Assessor: Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.18526; 148.34521
50 m (centre point):	-22.18554; 148.34563
100 m (end point):	-22.18580; 148.34602
Elevation (mAHD):	198
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box woodland on old sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	4
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	8
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Alphitonia excelsa</i> , <i>Owenia acidula</i> , <i>Corymbia clarksoniana</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Grevillea parallela</i> , <i>Breynia oblongifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> <i>subsp. lineare</i> , <i>Archidendropsis basaltica</i> , <i>Grewia latifolia</i> , <i>Myoporum</i> <i>acuminatum</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida</i> <i>ingrata</i> , <i>Cymbopogon queenslandicus</i> , <i>Enteropogon acicularis</i> , <i>Eragrostis sp.</i> , <i>Aristida sp.</i>	8
Forb spp. richness: <i>Waltheria indica</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Melhania</i> <i>oblongifolia</i> , <i>Rostellularia adscendens</i> , <i>Galactia tenuifolia</i> , <i>Phyllanthus virgata</i>	7
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Stylosanthes</i> <i>scabra</i> , <i>Sida cordifolia</i>	60

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	52.8			
Shrub canopy cover (100 m canopy intercept)	% cover	1.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	11			
Litter cover (1 m x 1 m plots)	% cover	30			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	275			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	6
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	3	Quality of shelter	10	5
Large trees	15	10	Mobility	10	7
Fallen woody material	5	5	Site location	5	4
Weed cover	10	0	Total	50	28
Litter cover	5	5			
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	91

Habitat quality score:

6

Site photos



Start point, facing SE



Mid-point, facing north



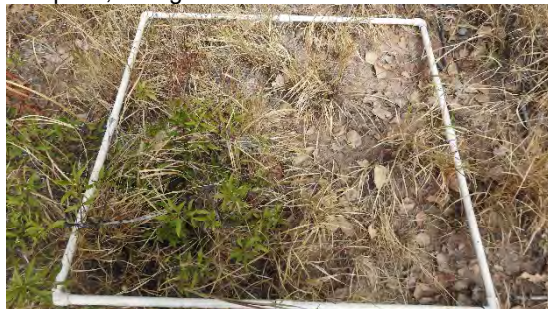
Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC03 – Koala habitat	Assessor: Bruce McLennan
Property: Wynette	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16472; 148.34341
50 m (centre point):	-22.16505; 148.34305
100 m (end point):	-22.16533; 148.34267
Elevation (mAHD):	194
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box and Dallachy's gum woodland on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	4
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	3
Total large trees/ha:	14
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Alectryon oleifolius</i> , <i>Grevillea parallela</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Grevillea parallela</i> , <i>Breynia oblongifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> <i>subsp. lineare</i> , <i>Grewia retusifolia</i> , <i>Capparis lasiantha</i> , <i>Owenia acidula</i> , <i>Carissa ovata</i> , <i>Alphitonia excelsa</i> , <i>Ehretia membranifolia</i> , <i>Atalaya</i> <i>hemiglaucula</i> , <i>Enchylaena tomentosa</i> , <i>Corymbia dallachiana</i>	15
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida</i> <i>jerichoensis</i> , <i>Cymbopogon queenslandicus</i> , <i>Bothriochloa bladhii</i> , <i>Eulalia</i> <i>aurea</i> , <i>Enneapogon lindleyanus</i> , <i>Aristida personata</i> , <i>Panicum effusum</i>	10
Forb spp. richness: <i>Afrohybanthus enneaspermus</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Melhantha oblongifolia</i> , <i>Nyssanthus erecta</i> , <i>Galactia tenuifolia</i> , <i>Rhyncosia</i> <i>minima</i> , <i>Chamaecrista absus</i>	8
Other spp.: <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Stylosanthes</i> <i>scabra</i> , <i>Sida cordifolia</i>	30

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	24.2			
Shrub canopy cover (100 m canopy intercept)	% cover	2.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	10			
Litter cover (1 m x 1 m plots)	% cover	28			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	235			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	15
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	3	Quality of shelter	10	5
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	4
Weed cover	10	3	Total	50	31
Litter cover	5	5	Site + landscape	106	81
Total	80	66	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	112

Habitat quality score:

7

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC04 – koala habitat	Assessor: Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.11817; 148.25464
50 m (centre point):	-22.11827; 148.25423
100 m (end point):	-22.11839; 148.2537
Elevation (mAHD):	205
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box grassy woodland on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	18
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	13
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>Cassia brewsteri</i> , <i>Alectryon oleifolius</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>E. populnea</i> , <i>C. brewsteri</i> , <i>Carissa ovata</i> , <i>Ehretia membranifolia</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida holathera</i> , <i>Bothriochloa bladhii</i> , <i>Bothriochloa decipiens</i> , <i>Alloteropsis semialata</i> , <i>Eragrostis sororia</i>	8
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Fimbristylis dichotoma</i> , <i>Achyranthes aspera</i> , <i>Galactia tenuifolia</i> , <i>Phyllanthus virgata</i> , <i>Chamaecrista absus</i>	6
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Sida spinescens</i> , <i>Stylosanthes scabra</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	20			
Shrub canopy cover (100 m canopy intercept)	% cover	10.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	8			
Litter cover (1 m x 1 m plots)	% cover	35			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	95			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	20
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	3	Quality of shelter	10	1
Large trees	15	15	Mobility	10	10
Fallen woody material	5	2	Site location	5	4
Weed cover	10	3	Total	50	27
Litter cover	5	5	Site + landscape	106	82
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	109

Habitat quality score:

7

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.9BC01 – koala habitat	Assessor: Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.1963; 148.35268
50 m (centre point):	-22.19591; 148.35249
100 m (end point):	-22.19549; 148.35228
Elevation (mAHD):	203
General Site Description	
Landform	Gently undulating plain
Soil	Red sands
Dominant vegetation observed	Narrow leaved ironbark, Clarkson's bloodwood and Dallachy's gum on weathered sands
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	41
Number of large Eucalypt trees:	1
Non-Eucalypt large tree DBH (cm): (from benchmark document)	21
Number of large Non-Eucalypt trees:	2
Total large trees/ha:	6
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	9
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus crebra</i> , <i>Corymbia dallachiana</i> , <i>C. clarksoniana</i> , <i>C. tessellaris</i> , <i>Bursaria incana</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>B. incana</i> , <i>Grewia retusifolia</i> , <i>Alphitonia excelsa</i> , <i>Grewia latifolia</i> , <i>Eremophila debilis</i> , <i>Sida hackettiana</i>	10
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Themeda triandra</i> , <i>Enneapogon</i> sp.	5
Forb spp. richness: <i>Achyranthes aspera</i> , <i>Melhania oblongifolia</i> , <i>Cyanthillium cinereum</i> , <i>Nyssanthus erecta</i> , <i>Galactia tenuifolia</i> , <i>Calotis cuneifolia</i> , <i>Dianella nervosa</i> , <i>Lomandra confertifolia</i> subsp. <i>pallida</i> , <i>Vittadinia</i> sp., <i>Rhynchosia minima</i>	10
Other spp.:	0
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Sida rhombifolia</i> , <i>Harrisia martinii</i>	20

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	30.7
Shrub canopy cover (100 m canopy intercept)	% cover	4
Native perennial grass cover (1 m x 1 m plots)	% cover	10
Litter cover (1 m x 1 m plots)	% cover	33
Coarse woody debris (from 50 m x 20 m plot)	m / ha	260
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	6
Grasses	no. species	9
Forbs	no. species	11
Large eucalypts	no. / ha	19
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	17
Tree canopy cover	%	25
Native shrub cover	%	10
Native perennial grass cover	%	26
Organic litter cover	%	30
Coarse woody debris	m / ha	342

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	19
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	1	Quality of shelter	10	1
Large trees	15	5	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	5	Total	50	17
Litter cover	5	5	Site + landscape	106	76
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	93

Habitat quality score:

6

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.9BC02 – koala habitat	Assessor: Bruce McLennan
Property: Wynette	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17054; 148.34081
50 m (centre point):	-22.17097; 148.34074
100 m (end point):	Not recorded
Elevation (mAHD):	200
General Site Description	
Landform	Gently undulating plain
Soil	Red sands
Dominant vegetation observed	Corymbia woodland on deeply weathered red sands
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	41
Number of large Eucalypt trees:	3
Non-Eucalypt large tree DBH (cm): (from benchmark document)	21
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	6
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Corymbia tessellaris</i> , <i>C. dallachiana</i> , <i>C. clarksoniana</i> , <i>Alphitonia excelsa</i> , <i>Petalostigma pubescens</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Acacia salicina</i> , <i>Myoporum acuminatum</i> , <i>Grewia latifolia</i> , <i>Eremophila debilis</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida personata</i>	4
Forb spp. richness: <i>Glycine tomentosa</i> , <i>Melhania oblongifolia</i> , <i>Cyanthillium cinereum</i> , <i>Vittadinia sulcata</i> , <i>Galactia tenuifolia</i> , <i>Oxalis</i> sp., <i>Euphorbia tannensis</i> subsp. <i>eremophila</i> , <i>Chamaecrista absus</i> , <i>Waltheria indica</i> , <i>Desmodium macrocarpum</i> , <i>Crotalaria mitchellii</i> , <i>Vittadinia</i> sp.	12
Other spp.: <i>Jacquemontia paniculata</i>	1
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Sida rhombifolia</i> , <i>Sida spinescens</i> , <i>Lantana camara</i>	30

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	26.4
Shrub canopy cover (100 m canopy intercept)	% cover	2.2
Native perennial grass cover (1 m x 1 m plots)	% cover	18
Litter cover (1 m x 1 m plots)	% cover	37
Coarse woody debris (from 50 m x 20 m plot)	m / ha	560
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	6
Grasses	no. species	9
Forbs	no. species	11
Large eucalypts	no. / ha	19
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	17
Tree canopy cover	%	25
Native shrub cover	%	10
Native perennial grass cover	%	26
Organic litter cover	%	30
Coarse woody debris	m / ha	342

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	3	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	20
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	3	Quality of shelter	10	1
Large trees	15	5	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	20
Litter cover	5	5	Site + landscape	106	75
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	95

Habitat quality score:

6

Site photos



Start point, facing S



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.1BC01 – OS habitat	Assessor – Bruce McLennan
Property: Wynette	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.4.9	Observed RE: 11.3.1
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.15934; 148.31157
50 m (centre point):	-22.15913; 148.31201
100 m (end point):	Not recorded
Elevation (mAHD):	191
General Site Description	
Landform	Gently undulating plain - drainage
Soil	Light clay
Dominant vegetation observed	Coolabah and Brigalow woodland on clay soil drainage
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	3
Total large trees/ha:	6
Tree canopy (EDL) height (m):	13
Sub-canopy height (m):	8
Emergent height (m):	15
Total tree species richness: <i>Eucalyptus coolabah</i> , <i>Acacia harpophylla</i> , <i>Lysiphyllum carronii</i> , <i>Brachychiton rupestris</i> , <i>Lysiphyllum hookeri</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Terminalia oblongata</i> , <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Alectryon diversifolius</i> , <i>Acacia salicina</i> , <i>Apophyllum anomalum</i> , <i>Alectryon oleifolius</i> , <i>Jasminum didymum subsp. lineare</i> , <i>Abutilon oxycarpum</i>	10
Grass spp. richness: <i>Leptochloa digitata</i> , <i>Enteropogon acicularis</i> , <i>Enteropogon ramosus</i> , <i>Paspalidium jubiflorum</i> , <i>Eragrostis tenellula</i> , <i>Bothriochloa bladhii</i> , <i>Eriochloa sp.</i> , <i>Paspalidium sp.</i>	8
Forb spp. richness: <i>Evolvulus alsinoides</i> , <i>Phyllanthus virgatus</i> , <i>Alternanthera denticulata</i> , <i>Boerhavia dominii</i> , <i>Cyperus sp.</i> , <i>Ipomoea plebeia</i> , <i>Cyperus bifax</i> , <i>Glycine sp.</i> , <i>Oxalis sp.</i> , <i>Dipteracanthus australasicus</i> , <i>Basilicum polystachion</i> , <i>Centipeda minima</i> , <i>Goodenia sp.</i> , <i>Alternanthera sp.</i>	14
Other spp.: <i>Parsonsia sp.</i> , <i>Eustrephus latifolius</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Harrisia martinii</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i> , <i>Malvastrum coromandelianum</i>	45

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	14.7
Shrub canopy cover (100 m canopy intercept)	% cover	3
Native perennial grass cover (1 m x 1 m plots)	% cover	16
Litter cover (1 m x 1 m plots)	% cover	14
Coarse woody debris (from 50 m x 20 m plot)	m / ha	845
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	5
Grasses	no. species	4
Forbs	no. species	8
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	170
Tree canopy median height	m	14
Tree canopy cover	%	29
Native shrub cover	%	8
Native perennial grass cover	%	8
Organic litter cover	%	34
Coarse woody debris	m / ha	1752

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	4
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	1
Large trees	15	5	Mobility	10	4
Fallen woody material	5	2	Site location	5	1
Weed cover	10	3	Total	50	18
Litter cover	5	3	Site + Landscape	106	60
Total	80	56	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	78

Habitat quality score:

5

Site photos



Start point, facing NE



Mid-point, facing north



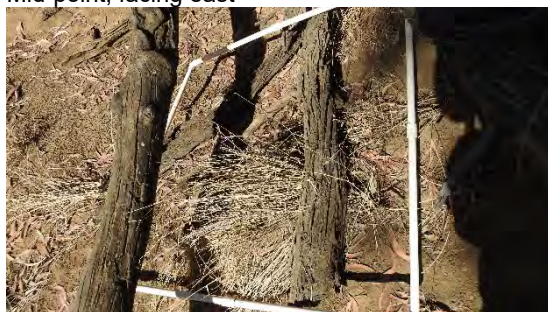
Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.1BC02 – OS habitat	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.1
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.12471; 148.27284
50 m (centre point):	-22.12470; 148.27333
100 m (end point):	Not recorded
Elevation (mAHD):	192
General Site Description	
Landform	Gently undulating plain - drainage
Soil	Light clay
Dominant vegetation observed	Coolabah and Brigalow woodland on clay soil drainage
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	3
Total large trees/ha:	6
Tree canopy (EDL) height (m):	11
Sub-canopy height (m):	6
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus coolabah</i> , <i>Acacia harpophylla</i> , <i>Acacia excelsa</i> , <i>Corymbia dallachiana</i> , <i>Terminalia oblongata</i> , <i>Lysiphyllum hookeri</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Acacia harpophylla</i> , <i>Acacia salicina</i> , <i>Grewia retusifolia</i> , <i>L. hookeri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Sida hackettiana</i> , <i>Psyrax oleifolius</i>	9
Grass spp. richness: <i>Enteropogon ramosus</i> , <i>Chrysopogon fallax</i> , <i>Bothriochloa decipiens</i> , <i>Themeda avenacea</i>	4
Forb spp. richness: <i>Nyssanthus erecta</i> , <i>Rostellularia adscendens</i> , <i>Euphorbia drummondii</i> , <i>Rhynchosia minima</i> , <i>Cyperus</i> sp., <i>Evolvulus alsinoides</i> , <i>Solanum ellipticum</i> , <i>Corchorus trilocularis</i> , <i>Achyranthes aspera</i> , <i>Cyperus gracilis</i> , <i>Commelina diffusa</i> , <i>Dianella nervosa</i>	12
Other spp.: <i>Eustrephus latifolius</i>	1
Weed spp. and cover as % of area: <i>Urochloa mosambicensis</i> , <i>Harrisia martinii</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i> , <i>Malvastrum coromandelianum</i> , <i>Megathyrsus maximus</i> , <i>Eclipta prostrata</i> , <i>Vachellia farnesiana</i> , <i>Sida spinescens</i>	25

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	28.2
Shrub canopy cover (100 m canopy intercept)	% cover	3.4
Native perennial grass cover (1 m x 1 m plots)	% cover	20
Litter cover (1 m x 1 m plots)	% cover	39
Coarse woody debris (from 50 m x 20 m plot)	m / ha	440
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	5
Grasses	no. species	4
Forbs	no. species	8
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	170
Tree canopy median height	m	14
Tree canopy cover	%	29
Native shrub cover	%	8
Native perennial grass cover	%	8
Organic litter cover	%	34
Coarse woody debris	m / ha	1752

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	7
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	15
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	5	Mobility	10	4
Fallen woody material	5	2	Site location	5	1
Weed cover	10	5	Total	50	18
Litter cover	5	5	BioCondition: Site + Landscape	106	75
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	93

Habitat quality score:

6

Site photos



Start point, facing E



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 4.9BC01 – OS habitat	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 06/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.5.3/11.4.9 (90/10), 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.11985; 148.26997
50 m (centre point):	-22.11981; 148.2695
100 m (end point):	-22.11977; 148.26901
Elevation (mAHD):	200
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow woodland on clay plain retreat edge
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	9
Sub-canopy height (m):	5
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Eucalyptus populnea</i> , <i>Lysiphyllum hookeri</i> , <i>Flindersia dissosperma</i> , <i>Alectryon oleifolius</i> , <i>Eucalyptus coolabah</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Eremophila mitchellii</i> , <i>L. hookeri</i> , <i>Apophyllum anomalum</i> , <i>Ehretia membranifolia</i> , <i>Alectryon diversifolius</i> , <i>Enchylaena tomentosa</i> , <i>Citrus glauca</i> , <i>Maireana microphylla</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Terminalia oblongata</i>	13
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium</i> sp., <i>Panicum effusum</i>	5
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Dipteracanthus australasicus</i> , <i>Abutilon</i> sp., <i>Einadia nutans</i> , <i>Achyranthes aspera</i> , <i>Asperula conferta</i> , <i>Nyssanthus erecta</i> , <i>Plectranthus parviflorus</i> , <i>Euphorbia</i> sp. <i>Abutilon</i> sp.	10
Other spp.: <i>Parsonsia lanceolata</i> , <i>P. eucalyptophylla</i> , <i>Marsdenia australis</i> , <i>Cynanchum viminale</i> subsp. <i>brunonianum</i>	4
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Harrisia martinii</i> , <i>Opuntia tomentosa</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i>	60

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	16.5
Shrub canopy cover (100 m canopy intercept)	% cover	11.5
Native perennial grass cover (1 m x 1 m plots)	% cover	1
Litter cover (1 m x 1 m plots)	% cover	23
Coarse woody debris (from 50 m x 20 m plot)	m / ha	240
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	11
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	1
Shrub layer cover	5	3	Quality of foraging	10	1
Native perennial grass cover	5	0	Quality of shelter	10	1
Large trees	15	0	Mobility	10	1
Fallen woody material	5	2	Site location	5	1
Weed cover	10	0	Total	50	5
Litter cover	5	5	Site + Landscape	106	54
Total	80	43	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	59

Habitat quality score:

4

Site photos



Start point, facing W



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 4.9BC02 – OS habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 07/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.19296; 148.3465
50 m (centre point):	-22.1926; 148.34676
100 m (end point):	-22.19228; 148.34697
Elevation (mAHD):	192
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow on clay plain - drainage
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	27
Total large trees/ha:	54
Tree canopy (EDL) height (m):	14
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Eucalyptus populnea</i> , <i>Lysiphyllum hookeri</i> , <i>Acacia excelsa</i> , <i>Owenia acidula</i> , <i>Santalum lanceolatum</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>O. acidula</i> , <i>S. lanceolatum</i> , <i>E. populneus</i> , <i>Ehretia membranifolia</i> , <i>A. harpophylla</i> , <i>Enchylaena tomentosa</i> , <i>Abutilon oxycarpum</i>	10
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Paspalidium sp.</i>	4
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Alternanthera denticulata</i>	2
Other spp.: <i>Parsonsia lanceolata</i> , <i>P. eucalyptophylla</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Urochloa mosambicensis</i> , <i>Lantana camara</i> , <i>Stylosanthes scabra</i>	50

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	49.6
Shrub canopy cover (100 m canopy intercept)	% cover	4.7
Native perennial grass cover (1 m x 1 m plots)	% cover	10
Litter cover (1 m x 1 m plots)	% cover	36
Coarse woody debris (from 50 m x 20 m plot)	m / ha	320
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	8
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	1
Shrub layer cover	5	5	Quality of foraging	10	1
Native perennial grass cover	5	3	Quality of shelter	10	1
Large trees	15	15	Mobility	10	1
Fallen woody material	5	2	Site location	5	1
Weed cover	10	0	Total	50	5
Litter cover	5	5	Site + landscape	106	69
Total	80	61	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	74

Habitat quality score:

5

Site photos



Start point, facing NE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 4.9BC03 – OS habitat	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.4.9	Observed RE: 11.4.9
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.11968; 148.21956
50 m (centre point):	-22.11963; 148.22003
100 m (end point):	-22.1196; 148.22047
Elevation (mAHD):	204
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Brigalow, Poplar box and Red bauhinia on light gilgai clay
100 x 25 m area (0.25 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	5
Total large trees/ha:	20
Tree canopy (EDL) height (m):	11
Sub-canopy height (m):	7.5
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Eucalyptus populnea</i> , <i>Lysiphyllum carronii</i> , <i>Casuarina cristata</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Apophyllum anomalum</i> , <i>Carissa ovata</i> , <i>Terminalia oblongata</i> , <i>L. carronii</i> , <i>Alectryon diversifolius</i> , <i>Ehretia membranifolia</i> , <i>Pittosporum spinescens</i> , <i>Enchylaena tomentosa</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Abutilon oxycarpum</i>	11
Grass spp. richness: <i>Ancistrachne uncinulata</i> , <i>Aristida jerichoensis</i> , <i>Enteropogon acicularis</i>	3
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Einadia nutans</i> , <i>Dysphania sp.</i> , <i>Nyssanthus erecta</i> , <i>Salsola australis</i> , <i>Rostellularia adscendens</i> , <i>Abutilon fraseri</i> , <i>Cheilanthes sieberi</i> , <i>Sida sp.</i>	9
Other spp.: <i>Parsonsia lanceolata</i> , <i>Clematicissus opaca</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Sida spinescens</i> , <i>Harrisia martinii</i> , <i>Malvastrum coromandelianum</i> , <i>Megathyrsus maximus</i> , <i>Parthenium hysterophorus</i> , <i>Gomphrena celosioides</i> , <i>Portulaca oleracea</i>	50

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	21.7
Shrub canopy cover (100 m canopy intercept)	% cover	2.5
Native perennial grass cover (1 m x 1 m plots)	% cover	1
Litter cover (1 m x 1 m plots)	% cover	50
Coarse woody debris (from 50 m x 20 m plot)	m / ha	935
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	6
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	1
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	5	Mobility	10	7
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	19
Litter cover	5	5	Site + landscape	106	57
Total	80	51	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	76

Habitat quality score:

5

Site photos



Start point, facing E



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact OSBC01 – OS habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.4.9 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.19255; 148.38289
50 m (centre point):	-22.19217; 148.38261
100 m (end point):	-22.19180; 148.38231
Elevation (mAHD):	180
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Cleared with strips of Brigalow regrowth on deep gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	3.5
Sub-canopy height (m):	NA
Emergent height (m):	NA
Total tree species richness:	1
<i>Acacia harpophylla</i>	
50 x 10 m area	
Shrub spp. richness: <i>Apophyllum anomalum, Enchylaena tomentosa, Abutilon oxycarpum</i>	3
Grass spp. richness: <i>Paspalidium sp., Walwhalleya proluta, Dinebra decipiens, Brachyachne convergens, Eriochloa procera, Sporobolus actinocladius</i>	6
Forb spp. richness: <i>Alternanthera denticulata, Cyperus sp., Basalticum polystachion, Sesbania cannabina, Marsilea sp., Nyssanthes erecta</i>	6
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris, Parthenium hysterophorus, Harrisia martinii, Abutilon guineense</i>	60

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	22.9
Shrub canopy cover (100 m canopy intercept)	% cover	2.2
Native perennial grass cover (1 m x 1 m plots)	% cover	7
Litter cover (1 m x 1 m plots)	% cover	43
Coarse woody debris (from 50 m x 20 m plot)	m / ha	15
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	3	Connectivity	5	2
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	4
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	3	Quality of shelter	10	10
Large trees	15	0	Mobility	10	7
Fallen woody material	5	0	Site location	5	4
Weed cover	10	0	Total	50	38
Litter cover	5	5	Site + landscape	106	54
Total	80	38	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	92

Habitat quality score:

6

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact OSBC02 – OS habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.4.9 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.17608; 148.37694
50 m (centre point):	-22.17595; 148.37740
100 m (end point):	-22.17584; 148.37787
Elevation (mAHD):	181
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow regrowth on lightly gilgaid clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	4.5
Sub-canopy height (m):	NA
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Acacia salicina</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Apophyllum anomalum</i> , <i>Capparis lasiantha</i> , <i>Abutilon oxycarpum</i> , <i>Citrus glauca</i> , <i>Atalaya hemiglauca</i> , <i>Cassia brewsteri</i> , <i>Ventilago viminalis</i> , <i>Terminalia oblongata</i> , <i>Alectryon oleifolius</i>	9
Grass spp. richness: <i>Sporobolus caroli</i> , <i>Bothriochloa bladhii</i> , <i>Eriochloa sp.</i>	3
Forb spp. richness: <i>Alternanthera denticulata</i> , <i>Cyperus bifax</i> , <i>Rhynchosia minima</i> , <i>Sesbania cannabina</i> , <i>Achyranthes aspera</i> , <i>Evolvulus alsinoides</i> , <i>Portulaca sp.</i> , <i>Phyllanthus virgata</i> , <i>Sida sp.</i> , <i>Melhania oblongifolia</i>	10
Other spp.: <i>Clematicissus opaca</i> , <i>Parsonsia lanceolata</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Abutilon guineense</i> , <i>Malvastrum americanum</i> , <i>Parthenium hysterophorus</i> , <i>Urochloa mosambicensis</i> , <i>Stylosanthes scabra</i> , <i>Gomphrena celosioides</i>	70

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	24.7
Shrub canopy cover (100 m canopy intercept)	% cover	1.6
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	13
Coarse woody debris (from 50 m x 20 m plot)	m / ha	0
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	2
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	14
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	5
Large trees	15	0	Mobility	10	7
Fallen woody material	5	0	Site location	5	4
Weed cover	10	0	Total	50	28
Litter cover	5	3	Site + landscape	106	49
Total	80	35	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	77

Habitat quality score:

5

Site photos



Start point, facing ENE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact OSBC03 – OS habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.4.9 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.20388; 148.35408
50 m (centre point):	-22.20343; 148.35425
100 m (end point):	-22.20306; 148.35440
Elevation (mAHD):	199
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow regrowth on moderately gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	3.0
Sub-canopy height (m):	
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Cassia brewsteri</i>	2
50 x 10 m area	
Shrub spp. richness: <i>Apophyllum anomalum</i> , <i>Alectryon diversifolius</i> , <i>Capparis lasiantha</i> , <i>C. brewsteri</i> , <i>Ehretia membranifolia</i> , <i>Atalaya hemiglauca</i>	6
Grass spp. richness: <i>Cynodon dactylon</i> , <i>Dichanthium sericeum</i> , <i>Eriochloa procera</i> , <i>Enteropogon acicularis</i> , <i>Paspalidium sp.</i> , <i>Eragrostis elongata</i>	6
Forb spp. richness: <i>Cyperus sp.</i> , <i>Balsamicum polystachion</i> , <i>Alternanthera denticulata</i>	3
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Parthenium hysterophorus</i> , <i>Stylosanthes scabra</i> , <i>Megathyrsus maximus</i> , <i>Bothriochloa pertusa</i>	60

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	6.1
Shrub canopy cover (100 m canopy intercept)	% cover	2.9
Native perennial grass cover (1 m x 1 m plots)	% cover	26
Litter cover (1 m x 1 m plots)	% cover	14
Coarse woody debris (from 50 m x 20 m plot)	m / ha	60
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	2
Native plant species richness: Shrubs	5	3	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	0	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	0	Mobility	10	10
Fallen woody material	5	0	Site location	5	4
Weed cover	10	0	Total	50	31
Litter cover	5	3	Site + landscape	106	50
Total	80	34	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	81

Habitat quality score:

5

Site photos



Start point, facing NNE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact OSBC04 – OS habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 17/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.4.9 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.24479; 148.35703
50 m (centre point):	-22.24489; 148.35750
100 m (end point):	-22.24498; 148.35796
Elevation (mAHD):	191
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Cleared with strips of Brigalow regrowth on gilgai clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Eucalypt trees:	
Non-Eucalypt large tree DBH (cm): (from benchmark document)	28
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	5.0
Sub-canopy height (m):	NA
Emergent height (m):	NA
Total tree species richness: <i>Acacia harpophylla</i> , <i>Flindersia dissosperma</i> , <i>Eucalyptus cambageana</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>Atalaya hemiglauca</i> , <i>Carissa ovata</i> , <i>Capparis loranthifolia</i> , <i>Myoporum acuminatum</i> , <i>Enchylaena tomentosa</i>	6
Grass spp. richness: <i>Dichanthium sericeum</i> , <i>Eragrostis</i> sp., <i>Diplachne fusca</i> var. <i>fusca</i> , <i>Eriochloa procera</i> , <i>Eragrostis tenellula</i>	5
Forb spp. richness: <i>Alternanthera denticulata</i> , <i>Cyperus bifax</i> , <i>Dipteracanthus australasicus</i>	3
Other spp.: <i>Clematicissus opaca</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Parthenium hysterophorus</i> , <i>Stylosanthes hamata</i> , <i>Urochloa mosambicensis</i> , <i>Malvastrum americanum</i> , <i>Bothriochloa pertusa</i> , <i>Chloris gayana</i> , <i>Harrisia martinii</i> , <i>Abutilon guineense</i> , <i>Megathyrus maximus</i> , <i>Chloris inflata</i>	60-70

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	1.2
Shrub canopy cover (100 m canopy intercept)	% cover	1.0
Native perennial grass cover (1 m x 1 m plots)	% cover	22
Litter cover (1 m x 1 m plots)	% cover	4
Coarse woody debris (from 50 m x 20 m plot)	m / ha	15
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	5
Shrubs	no. species	10
Grasses	no. species	5
Forbs	no. species	10
Large eucalypts	no. / ha	NA
Large non-eucalypts	no. / ha	45
Tree canopy median height	m	13
Tree canopy cover	%	25
Native shrub cover	%	5
Native perennial grass cover	%	20
Organic litter cover	%	45
Coarse woody debris	m / ha	1200

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	3	Context	5	0
Native plant species richness: Shrubs	5	3	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	5
Tree canopy cover	5	0	Habitat:		
Tree canopy height	5	3	Threats	15	7
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	0	Mobility	10	7
Fallen woody material	5	0	Site location	5	1
Weed cover	10	0	Total	50	25
Litter cover	5	0	Site + landscape	106	35
Total	80	30	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	60

Habitat quality score:

4

Site photos



Start point, facing E



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact OSBC05 – OS habitat	Assessor – Bruce McLennan
Property: Iffley	Date: 17/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: Non-remnant	Observed RE: Regrowth 11.4.8 (non-remnant)
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.21148; 148.35539
50 m (centre point):	-22.21128; 148.35497
100 m (end point):	-22.21109; 148.35458
Elevation (mAHD):	201
General Site Description	
Landform	Gently undulating plain
Soil	Light clay
Dominant vegetation observed	Brigalow and Dawson gum regrowth on tight clay soils
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	38
Number of large Eucalypt trees:	0
Non-Eucalypt large tree DBH (cm): (from benchmark document)	22
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	0
Tree canopy (EDL) height (m):	4.0
Sub-canopy height (m):	NA
Emergent height (m):	11.5
Total tree species richness: <i>Eucalyptus cambageana</i> , <i>Acacia harpophylla</i> , <i>Eucalyptus populnea</i> , <i>Flindersia dissosperma</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Capparis lasiantha</i> , <i>C. brewsteri</i> , <i>Atalaya hemiglauca</i> , <i>Citrus glauca</i> , <i>Owenia acidula</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Acacia excelsa</i> , <i>Myoporum acuminatum</i> , <i>Abutilon oxycarpum</i>	9
Grass spp. richness: <i>Dichanthium sericeum</i> , <i>Paspalidium caespitosum</i> , <i>Eragrostis</i> sp., <i>Sporobolus caroli</i> , <i>Chloris</i> sp., <i>Heteropogon contortus</i> , <i>Bothriochloa</i> sp., <i>Aristida queenslandicus</i> , <i>Themeda triandra</i> , <i>Eulalia aurea</i>	10
Forb spp. richness: <i>Alternanthera nana</i> , <i>Cyanthillium cinereum</i> , <i>Glycine</i> sp.	3
Other spp.: <i>Jacquemontia paniculata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Parthenium hysterophorus</i> , <i>Stylosanthes scabra</i> , <i>Urochloa mosambicensis</i> , <i>Malvastrum americanum</i> , <i>Sida rhombifolia</i> , <i>Melinis repens</i> , <i>Opuntia tomentosa</i> , <i>Chloris inflata</i>	20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	7.9			
Shrub canopy cover (100 m canopy intercept)	% cover	8.7			
Native perennial grass cover (1 m x 1 m plots)	% cover	19			
Litter cover (1 m x 1 m plots)	% cover	13			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	125			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	10			
Grasses	no. species	9			
Forbs	no. species	7			
Large eucalypts	no. / ha	38			
Large non-eucalypts	no. / ha	28			
Tree canopy median height	m	17			
Tree canopy cover	%	40			
Native shrub cover	%	5			
Native perennial grass cover	%	20			
Organic litter cover	%	37			
Coarse woody debris	m / ha	813			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	16
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	0	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	1
Native perennial grass cover	5	5	Quality of shelter	10	1
Large trees	15	0	Mobility	10	7
Fallen woody material	5	2	Site location	5	1
Weed cover	10	5	Total	50	17
Litter cover	5	3	Site + landscape	106	61
Total	80	45	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	78

Habitat quality score:

5

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.2BC01 – Greater glider habitat	Assessor – Bruce McLennan
Property: Wynette	Date: 06/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14530; 148.29825
50 m (centre point):	-22.14569; 148.29836
100 m (end point):	-22.14618; 148.29845
Elevation (mAHD):	199
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box woodland on alluvial levee
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	18
Tree canopy (EDL) height (m):	16
Sub-canopy height (m):	7
Emergent height (m):	NA
Total tree species richness:	3
<i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia salicina</i>	
50 x 10 m area	
Shrub spp. richness: <i>Grewia latifolia</i> , <i>G. retusifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Ficus opposita</i> , <i>Sida hackettiana</i>	6
Grass spp. richness: <i>Eragrostis elongata</i> , <i>Enteropogon ramosus</i> , <i>Panicum effusum</i> , <i>Bothriochloa bladhii</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Chrysopogon fallax</i>	7
Forb spp. richness: <i>Heliotropium ovalifolium</i> , <i>Pterocaulon redolens</i> , <i>Desmodium macrocarpum</i> , <i>Waltheria indica</i> , <i>Rhynchosia minima</i> , <i>Vittadinia sp.</i> , <i>Chamaecrista absus</i> , <i>Cyperus sp.</i> , <i>Cyperus exaltatus</i> , <i>Cyperus gracilis</i> , <i>Tephrosia sp.</i> , <i>Dianella nervosa</i>	12
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Lantana camara</i> , <i>Scoparia dulcis</i> , <i>Urochloa mosambicensis</i> , <i>Bidens pilosa</i> , <i>Melinis repens</i> , <i>Megathyrsus maximus</i> , <i>Emilia sonchifolia</i> , <i>Sida rhombifolia</i>	20

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	57.5
Shrub canopy cover (100 m canopy intercept)	% cover	9.1
Native perennial grass cover (1 m x 1 m plots)	% cover	27
Litter cover (1 m x 1 m plots)	% cover	66
Coarse woody debris (from 50 m x 20 m plot)	m / ha	140
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	2
Shrubs	no. species	2
Grasses	no. species	9
Forbs	no. species	17
Large eucalypts	no. / ha	22
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	40
Native shrub cover	%	2
Native perennial grass cover	%	35
Organic litter cover	%	30
Coarse woody debris	m / ha	307

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	25
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	3	Quality of shelter	10	5
Large trees	15	10	Mobility	10	10
Fallen woody material	5	2	Site location	5	1
Weed cover	10	5	Total	50	36
Litter cover	5	3	Site + landscape	106	82
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	118

Habitat quality score:

8

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.2BC02 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.2/11.3.7/11.3.1 (70/25/5)	Observed RE: 11.3.2
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.12009; 148.27162
50 m (centre point):	-22.12001; 148.27115
100 m (end point):	-22.11987; 148.27072
Elevation (mAHD):	197
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box grassy woodland
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	40
Number of large Eucalypt trees:	8
Non-Eucalypt large tree DBH (cm): (from benchmark document)	NA
Number of large Non-Eucalypt trees:	
Total large trees/ha:	16
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	11
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Acacia excelsa</i> , <i>Lysiphyllum hookeri</i> , <i>Corymbia clarksoniana</i>	4
50 x 10 m area	
Shrub spp. richness: <i>L. hookeri</i> , <i>Acacia salicina</i> , <i>A. excelsa</i> , <i>Cassia brewsteri</i>	4
Grass spp. richness: <i>Chrysopogon fallax</i> , <i>Enteropogon ramosus</i> , <i>Aristida jerichoensis</i> , <i>Eragrostis lacunaria</i> , <i>Heteropogon contortus</i> , <i>Themeda triandra</i> , <i>Enneapogon sp.</i> , <i>Aristida holathera</i>	8
Forb spp. richness: <i>Fimbristylis dichotoma</i> , <i>Evolvulus alsinoides</i> , <i>Pterocaulon redolens</i> , <i>Chamaecrista absus</i> , <i>Waltheria indica</i>	5
Other spp.: <i>Cymbidium canaliculatum</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> , <i>Harrisia martinii</i> , <i>Sida spinescens</i> , <i>Urochloa mosambicensis</i> , <i>Stylosanthes scabra</i> , <i>Melinis repens</i>	40

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	23.6
Shrub canopy cover (100 m canopy intercept)	% cover	1
Native perennial grass cover (1 m x 1 m plots)	% cover	15
Litter cover (1 m x 1 m plots)	% cover	44
Coarse woody debris (from 50 m x 20 m plot)	m / ha	185
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	2
Shrubs	no. species	2
Grasses	no. species	9
Forbs	no. species	17
Large eucalypts	no. / ha	22
Large non-eucalypts	no. / ha	NA
Tree canopy median height	m	18
Tree canopy cover	%	40
Native shrub cover	%	2
Native perennial grass cover	%	35
Organic litter cover	%	30
Coarse woody debris	m / ha	307

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	4
Native plant species richness: Forbs	5	3	Total:	26	23
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	5	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	46
Litter cover	5	5	Site + landscape	106	83
Total	80	60	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	129

Habitat quality score:

8

Site photos



Start point, facing WNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.25BC01 – Squatter pigeon habitat		Assessor – Bruce McLennan
Property: Deverill		Date: 17/05/2018
Bioregion: Brigalow Belt		Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.25		Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description		
0 m (start of transect):		-22.16626; 148.38077
50 m (centre point):		-22.16641; 148.38126
100 m (end point):		Not recorded
Elevation (mAHD):		185
General Site Description		
Landform		Stream channel and banks
Soil		Sand
Dominant vegetation observed		Forest red gum and River she oak on watercourse
100 x 50 m area (0.5 ha)		
Dominant canopy or EDL species with evidence of recruitment (%):		100
Eucalypt large tree DBH (cm): (from benchmark document)		49
Number of large Eucalypt trees:		9
Non-Eucalypt large tree DBH (cm): (from benchmark document)		29
Number of large Non-Eucalypt trees:		13
Total large trees/ha:		44
Tree canopy (EDL) height (m):		22
Sub-canopy height (m):		8
Emergent height (m):		NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Casuarina cunninghamiana</i> , <i>Melaleuca linariifolia</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i>		6
50 x 10 m area		
Shrub spp. richness: <i>Lysiphylum hookeri</i> , <i>Ficus opposita</i> , <i>Atalaya hemiglauca</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Grewia latifolia</i>		5
Grass spp. richness: <i>Chrysopogon fallax</i>		1
Forb spp. richness: <i>Pterocaulon redolens</i>		1
Other spp.: <i>Parsonsia lanceolata</i> , <i>Eustrephus latifolius</i> , <i>Cymbidium canaliculatum</i>		3
Weed spp. and cover as % of area: <i>Megathyrus maximus</i> , <i>Cenchrus ciliaris</i> , <i>Melinis repens</i> , <i>Lantana camara</i> , <i>Stachytarpheta cayennensis</i>		90

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	85.2			
Shrub canopy cover (100 m canopy intercept)	% cover	5.7			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	30			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	110			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	22
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	10
Large trees	15	15	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	41
Litter cover	5	3	Site + Landscape	106	77
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	118

Habitat quality score:

8

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.25BC02 – Squatter pigeon habitat	Assessor – Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.25	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.1215; 148.17401
50 m (centre point):	-22.12112; 148.17416
100 m (end point):	-22.12069; 148.17436
Elevation (mAHD):	200
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum and River she oak on creek channels
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	2
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	3
Total large trees/ha:	10
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	14
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Casuarina cunninghamiana</i> , <i>Melaleuca bracteata</i> , <i>Lysiphyllum hookeri</i> , <i>Corymbia clarksoniana</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Lysiphyllum hookeri</i> , <i>Acacia salicina</i> , <i>Atalaya hemiglauca</i> , <i>Maireana microphylla</i>	4
Grass spp. richness: <i>Chrysopogon fallax</i>	1
Forb spp. richness: <i>Nyssanthes erecta</i> , <i>Oxalis</i> sp., <i>Rostellularia adscendens</i> , <i>Melhania oblongifolia</i> , <i>Cucumis</i> sp., <i>Evolvulus alsinoides</i> , <i>Vittadinia</i> sp., <i>Einadia</i> sp.	8
Other spp.:	0
Weed spp. and cover as % of area: <i>Megathyrsus maximus</i> , <i>Sida coromandelianum</i> , <i>Parthenium hysterophorus</i> , <i>Stylosanthes scabra</i> , <i>Cenchrus ciliaris</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Melinis repens</i> , <i>Sida cordifolia</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pilosa</i> , <i>Sida spinescens</i> , <i>Emilia sonchifolia</i> , <i>Tridax procumbens</i>	90

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	57.5
Shrub canopy cover (100 m canopy intercept)	% cover	0
Native perennial grass cover (1 m x 1 m plots)	% cover	0
Litter cover (1 m x 1 m plots)	% cover	60
Coarse woody debris (from 50 m x 20 m plot)	m / ha	360
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	4
Shrubs	no. species	2
Grasses	no. species	8
Forbs	no. species	12
Large eucalypts	no. / ha	14
Large non-eucalypts	no. / ha	7
Tree canopy median height	m	23
Tree canopy cover	%	22
Native shrub cover	%	1
Native perennial grass cover	%	12
Organic litter cover	%	15
Coarse woody debris	m / ha	375

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	26
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	0	Quality of foraging	10	5
Native perennial grass cover	5	0	Quality of shelter	10	10
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	41
Litter cover	5	3	Site + Landscape	106	73
Total	80	47	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	114

Habitat quality score:

7

Site photos



Start point, facing NNE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC01 – squatter pigeon habitat		Assessor: Bruce McLennan
Property: Iffley		Date: 16/05/2018
Bioregion: Brigalow Belt		Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)		Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description		
0 m (start of transect):		-22.17296; 148.37563
50 m (centre point):		-22.1733; 148.3759
100 m (end point):		Not recorded
Elevation (mAHD):		187
General Site Description		
Landform		Gently undulating plain
Soil		Sandy light clay
Dominant vegetation observed		Poplar box and Dallachy's gum woodland on light clay plain
100 x 50 m area (0.5 ha)		
Dominant canopy or EDL species with evidence of recruitment (%):		100
Eucalypt large tree DBH (cm): (from benchmark document)		44
Number of large Eucalypt trees:		4
Non-Eucalypt large tree DBH (cm): (from benchmark document)		34
Number of large Non-Eucalypt trees:		0
Total large trees/ha:		8
Tree canopy (EDL) height (m):		20
Sub-canopy height (m):		9
Emergent height (m):		NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia salicina</i> , <i>Owenia acidula</i>		4
50 x 10 m area		
Shrub spp. richness: <i>Eremophila mitchellii</i> , <i>Capparis umbonata</i> , <i>Capparis arborea</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Carissa ovata</i> , <i>Archidendropsis basaltica</i> , <i>Atalaya hemiglaucula</i> , <i>Grewia latifolia</i> , <i>Myoporum acuminatum</i> , <i>Eremophila debile</i>		12
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Themeda triandra</i> , <i>Enneapogon</i> sp., <i>Eulalia aurea</i> , <i>Bothriochloa decipiens</i> , <i>Eragrostis sororia</i> , <i>Sporobolus caroli</i> , <i>Panicum effusum</i> , <i>Enteropogon ramosus</i> , <i>Enneapogon avenaceus</i>		12
Forb spp. richness: <i>Apowollastonia spilanthis</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Cyperus gracilis</i> , <i>Rostellularia adscendens</i> , <i>Boerhavia drummondii</i> , <i>Dianella nervosa</i> , <i>Alternanthera nana</i> , <i>Vittadinia pustula</i> , <i>Rhynchosia minima</i>		10
Other spp.:		0
Weed spp. and cover as % of area:		5
<i>Lantana camara</i> , <i>Malvastrum americanum</i> , <i>Sida rhombifolia</i>		

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	40.3			
Shrub canopy cover (100 m canopy intercept)	% cover	8.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	31			
Litter cover (1 m x 1 m plots)	% cover	41			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	235			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	6
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	5	Total	50	46
Litter cover	5	3	Site + landscape	106	70
Total	80	64	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	116

Habitat quality score:

7

Site photos



Start point, facing SSE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC02 – squatter pigeon habitat	Assessor: Bruce McLennan
Property: Iffley	Date: 16/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.18526; 148.34521
50 m (centre point):	-22.18554; 148.34563
100 m (end point):	-22.1858; 148.34602
Elevation (mAHD):	198
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box woodland on old sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	4
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	8
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Alphitonia excelsa</i> , <i>Owenia acidula</i> , <i>Corymbia clarksoniana</i>	5
50 x 10 m area	
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Grevillea parallela</i> , <i>Breynia oblongifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Archidendropsis basaltica</i> , <i>Grewia latifolia</i> , <i>Myoporum</i> <i>acuminatum</i>	9
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida ingrata</i> , <i>Cymbopogon queenslandicus</i> , <i>Enteropogon acicularis</i> , <i>Eragrostis sp.</i> , <i>Aristida</i> <i>sp.</i>	8
Forb spp. richness: <i>Waltheria indica</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Melhanina</i> <i>oblongifolia</i> , <i>Rostellularia adscendens</i> , <i>Galactia tenuifolia</i> , <i>Phyllanthus virgata</i>	7
Other spp.:	0
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Stylosanthes</i> <i>scabra</i> , <i>Sida cordifolia</i>	60

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	52.8			
Shrub canopy cover (100 m canopy intercept)	% cover	1.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	11			
Litter cover (1 m x 1 m plots)	% cover	30			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	275			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	0
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	6
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	5	Quality of foraging	10	10
Native perennial grass cover	5	3	Quality of shelter	10	10
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	0	Total	50	46
Litter cover	5	5			
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	109

Habitat quality score:

7

Site photos



Start point, facing SE



Mid-point, facing north



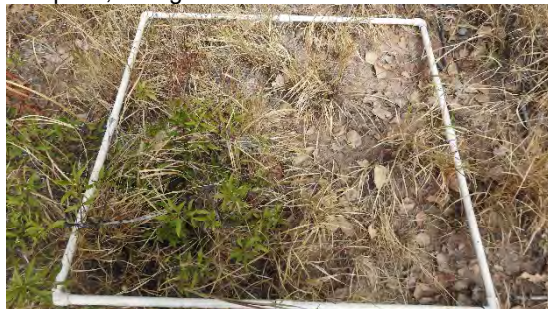
Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC03 – squatter pigeon habitat	Assessor: Bruce McLennan
Property: Wynette	Date: 19/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16472; 148.34341
50 m (centre point):	-22.16505; 148.34305
100 m (end point):	-22.16533; 148.34267
Elevation (mAHD):	194
General Site Description	
Landform	Gently undulating plain
Soil	Sandy light clay
Dominant vegetation observed	Poplar box and Dallachy's gum woodland on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	4
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	3
Total large trees/ha:	14
Tree canopy (EDL) height (m):	15
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia dallachiana</i> , <i>Acacia excelsa</i> , <i>Cassia brewsteri</i> , <i>Alectryon oleifolius</i> , <i>Grevillea parallela</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Ventilago viminalis</i> , <i>Grevillea parallela</i> , <i>Breynia oblongifolia</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>Grewia retusifolia</i> , <i>Capparis lasiantha</i> , <i>Owenia acidula</i> , <i>Carissa ovata</i> , <i>Alphitonia excelsa</i> , <i>Ehretia membranifolia</i> , <i>Atalaya hemiglauca</i> , <i>Enchylaena tomentosa</i> , <i>Corymbia dallachiana</i>	15
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida jerichoensis</i> , <i>Cymbopogon queenslandicus</i> , <i>Bothriochloa bladhii</i> , <i>Eulalia aurea</i> , <i>Enneapogon lindleyanus</i> , <i>Aristida personata</i> , <i>Panicum effusum</i>	10
Forb spp. richness: <i>Afrohybanthus enneaspermus</i> , <i>Pterocaulon redolens</i> , <i>Cyanthillium cinereum</i> , <i>Melhania oblongifolia</i> , <i>Nyssanthes erecta</i> , <i>Galactia tenuifolia</i> , <i>Rhyncosia minima</i> , <i>Chamaecrista absus</i>	8
Other spp.: <i>Eustrephus latifolius</i> , <i>Parsonsia lanceolata</i>	2
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Melinis repens</i> , <i>Sida rhombifolia</i> , <i>Stylosanthes scabra</i> , <i>Sida cordifolia</i>	30

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	24.2			
Shrub canopy cover (100 m canopy intercept)	% cover	2.3			
Native perennial grass cover (1 m x 1 m plots)	% cover	10			
Litter cover (1 m x 1 m plots)	% cover	28			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	235			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	5
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	15
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	5	Quality of foraging	10	10
Native perennial grass cover	5	3	Quality of shelter	10	10
Large trees	15	10	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	46
Litter cover	5	5	Site + landscape	106	81
Total	80	66	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	127

Habitat quality score:

8

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.3BC04 – koala habitat	Assessor: Bruce McLennan
Property: Winchester Downs	Date: 23/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.5.3/11.4.9 (95/5)	Observed RE: 11.5.3
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.11817; 148.25464
50 m (centre point):	-22.11827; 148.25423
100 m (end point):	-22.11839; 148.25370
Elevation (mAHD):	205
General Site Description	
Landform	Gently undulating plain
Soil	Sandy loam
Dominant vegetation observed	Poplar box grassy woodland on sand plains
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	44
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	18
Tree canopy (EDL) height (m):	20
Sub-canopy height (m):	13
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus populnea</i> , <i>Corymbia clarksoniana</i> , <i>Cassia brewsteri</i> , <i>Alectryon oleifolius</i>	4
50 x 10 m area	
Shrub spp. richness: <i>Acacia salicina</i> , <i>E. populnea</i> , <i>C. brewsteri</i> , <i>Carissa ovata</i> , <i>Ehretia membranifolia</i>	5
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida holathera</i> , <i>Bothriochloa bladhii</i> , <i>Bothriochloa decipiens</i> , <i>Alloteropsis semialata</i> , <i>Eragrostis sororia</i>	8
Forb spp. richness: <i>Cyperus gracilis</i> , <i>Fimbristylis dichotoma</i> , <i>Achyranthes aspera</i> , <i>Galactia tenuifolia</i> , <i>Phyllanthus virgata</i> , <i>Chamaecrista absus</i>	6
Other spp.: <i>Parsonsia lanceolata</i>	1
Weed spp. and cover as % of area: <i>Cenchrus ciliaris</i> dominates, <i>Sida spinescens</i> , <i>Stylosanthes scabra</i>	50

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	20			
Shrub canopy cover (100 m canopy intercept)	% cover	10.9			
Native perennial grass cover (1 m x 1 m plots)	% cover	8			
Litter cover (1 m x 1 m plots)	% cover	35			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	95			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	6			
Shrubs	no. species	6			
Grasses	no. species	6			
Forbs	no. species	10			
Large eucalypts	no. / ha	9			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	16			
Tree canopy cover	%	20			
Native shrub cover	%	3			
Native perennial grass cover	%	19			
Organic litter cover	%	20			
Coarse woody debris	m / ha	314			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	3	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	20
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	3	Quality of shelter	10	10
Large trees	15	15	Mobility	10	10
Fallen woody material	5	2	Site location	5	1
Weed cover	10	3	Total	50	46
Litter cover	5	5	Site + landscape	106	82
Total	80	62	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	128

Habitat quality score:

8

Site photos



Start point, facing WSW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.9BC01 – squatter pigeon habitat		Assessor: Bruce McLennan
Property: Iffley		Date: 16/05/2018
Bioregion: Brigalow Belt		Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)		Observed RE: 11.5.9
Transect Co-ordinates (Datum) General Site Description		
0 m (start of transect):		-22.1963; 148.35268
50 m (centre point):		-22.19591; 148.35249
100 m (end point):		-22.19549; 148.35228
Elevation (mAHD):		203
General Site Description		
Landform		Gently undulating plain
Soil		Red sands
Dominant vegetation observed		Narrow leaved ironbark, Clarkson's bloodwood and Dallachy's gum on weathered sands
100 x 50 m area (0.5 ha)		
Dominant canopy or EDL species with evidence of recruitment (%):		100
Eucalypt large tree DBH (cm): (from benchmark document)		41
Number of large Eucalypt trees:		1
Non-Eucalypt large tree DBH (cm): (from benchmark document)		21
Number of large Non-Eucalypt trees:		2
Total large trees/ha:		6
Tree canopy (EDL) height (m):		20
Sub-canopy height (m):		9
Emergent height (m):		NA
Total tree species richness: <i>Eucalyptus crebra</i> , <i>Corymbia dallachiana</i> , <i>C. clarksoniana</i> , <i>C. tessellaris</i> , <i>Bursaria incana</i>		5
50 x 10 m area		
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Acacia salicina</i> , <i>Cassia brewsteri</i> , <i>Jasminum didymum</i> subsp. <i>lineare</i> , <i>B. incana</i> , <i>Grewia retusifolia</i> , <i>Alphitonia excelsa</i> , <i>Grewia latifolia</i> , <i>Eremophila debilis</i> , <i>Sida hackettiana</i>		10
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Themeda triandra</i> , <i>Enneapogon</i> sp.		5
Forb spp. richness: <i>Achyranthes aspera</i> , <i>Melhania oblongifolia</i> , <i>Cyanthillium cinereum</i> , <i>Nyssanthes erecta</i> , <i>Galactia tenuifolia</i> , <i>Calotis cuneifolia</i> , <i>Dianella nervosa</i> , <i>Lomandra confertifolia</i> subsp. <i>pallida</i> , <i>Vittadinia</i> sp., <i>Rhynchosia minima</i>		10
Other spp.:		0
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Sida rhombifolia</i> , <i>Harrisia martinii</i>		20

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	30.7			
Shrub canopy cover (100 m canopy intercept)	% cover	4			
Native perennial grass cover (1 m x 1 m plots)	% cover	10			
Litter cover (1 m x 1 m plots)	% cover	33			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	260			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	6			
Grasses	no. species	9			
Forbs	no. species	11			
Large eucalypts	no. / ha	19			
Large non-eucalypts	no. / ha	1			
Tree canopy median height	m	17			
Tree canopy cover	%	25			
Native shrub cover	%	10			
Native perennial grass cover	%	26			
Organic litter cover	%	30			
Coarse woody debris	m / ha	342			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	19
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	5	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	5	Total	50	46
Litter cover	5	5	Site + landscape	106	76
Total	80	57	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	122

Habitat quality score:

8

Site photos



Start point, facing NNW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.9BC02 – Squatter pigeon habitat		Assessor: Bruce McLennan
Property: Wynette		Date: 19/05/2018
Bioregion: Brigalow Belt		Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.3/11.4.9 (95/5)		Observed RE: 11.5.9
Transect Co-ordinates (Datum) General Site Description		
0 m (start of transect):		-22.17054; 148.34081
50 m (centre point):		-22.17097; 148.34074
100 m (end point):		Not recorded
Elevation (mAHD):		200
General Site Description		
Landform		Gently undulating plain
Soil		Red sands
Dominant vegetation observed		Corymbia woodland on deeply weathered red sands
100 x 50 m area (0.5 ha)		
Dominant canopy or EDL species with evidence of recruitment (%):		100
Eucalypt large tree DBH (cm): (from benchmark document)		41
Number of large Eucalypt trees:		3
Non-Eucalypt large tree DBH (cm): (from benchmark document)		21
Number of large Non-Eucalypt trees:		0
Total large trees/ha:		6
Tree canopy (EDL) height (m):		18
Sub-canopy height (m):		8
Emergent height (m):		NA
Total tree species richness: <i>Corymbia tessellaris</i> , <i>C. dallachiana</i> , <i>C. clarksoniana</i> , <i>Alphitonia excelsa</i> , <i>Petalostigma pubescens</i>		5
50 x 10 m area		
Shrub spp. richness: <i>Petalostigma pubescens</i> , <i>Acacia salicina</i> , <i>Myoporum acuminatum</i> , <i>Grewia latifolia</i> , <i>Eremophila debilis</i>		5
Grass spp. richness: <i>Aristida calycina</i> , <i>Heteropogon contortus</i> , <i>Chrysopogon fallax</i> , <i>Aristida personata</i>		4
Forb spp. richness: <i>Glycine tomentosa</i> , <i>Melhaniea oblongifolia</i> , <i>Cyanthillium cinereum</i> , <i>Vittadinia sulcata</i> , <i>Galactia tenuifolia</i> , <i>Oxalis</i> sp., <i>Euphorbia tannensis</i> subsp. <i>eremophila</i> , <i>Chamaecrista absus</i> , <i>Waltheria indica</i> , <i>Desmodium macrocarpum</i> , <i>Crotalaria mitchellii</i> , <i>Vittadinia</i> sp.		12
Other spp.: <i>Jacquemontia paniculata</i>		1
Weed spp. and cover as % of area: <i>Melinis repens</i> , <i>Cenchrus ciliaris</i> , <i>Stylosanthes scabra</i> , <i>Sida rhombifolia</i> , <i>Sida spinescens</i> , <i>Lantana camara</i>		30

Plot attributes (actual)	Unit of measure	Measurement
Tree canopy cover (100 m canopy intercept)	% cover	26.4
Shrub canopy cover (100 m canopy intercept)	% cover	2.2
Native perennial grass cover (1 m x 1 m plots)	% cover	18
Litter cover (1 m x 1 m plots)	% cover	37
Coarse woody debris (from 50 m x 20 m plot)	m / ha	560
Benchmark attributes (source DNRME)	Unit of measure	Measurement
Recruitment of woody perennial species in EDL	%	100
Native plant species richness		
Trees	no. species	3
Shrubs	no. species	6
Grasses	no. species	9
Forbs	no. species	11
Large eucalypts	no. / ha	19
Large non-eucalypts	no. / ha	1
Tree canopy median height	m	17
Tree canopy cover	%	25
Native shrub cover	%	10
Native perennial grass cover	%	26
Organic litter cover	%	30
Coarse woody debris	m / ha	342

Site assessment scoring sheet

Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	3	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	20
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	15
Shrub layer cover	5	3	Quality of foraging	10	10
Native perennial grass cover	5	3	Quality of shelter	10	10
Large trees	15	5	Mobility	10	10
Fallen woody material	5	5	Site location	5	1
Weed cover	10	3	Total	50	46
Litter cover	5	5	Site + landscape	106	75
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	121

Habitat quality score:

8

Site photos



Start point, facing S



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC01 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Wynette	Date: 06/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.27b	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.14966; 148.30249
50 m (centre point):	-22.14937; 148.30212
100 m (end point):	-22.14908; 148.30174
Elevation (mAHD):	192
General Site Description	
Landform	Closed depression – flood channel
Soil	Light clay and alluvial sands
Dominant vegetation observed	Coolabah woodland on sedgy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	na
Number of large Non-Eucalypt trees:	0
Total large trees/ha:	18
Tree canopy (EDL) height (m):	18
Sub-canopy height (m):	9
Emergent height (m):	na
Total tree species richness: <i>Eucalyptus coolabah</i> , <i>E. tereticornis</i> , <i>Acacia salicina</i>	3
50 x 10 m area	
Shrub spp. richness: <i>Ludwigia octovalvis</i>	1
Grass spp. richness: <i>Diplachne fusca</i> var. <i>fusca</i> , <i>Walwhalleya proluta</i> , <i>Leersia hexandra</i>	3
Forb spp. richness: <i>Eleocharis plana</i> (dominant), <i>Eleocharis philippinensis</i> , <i>Marsilea drummondii</i> , <i>Centipeda minima</i> , <i>Juncus usitatus</i> , <i>Aeschynomene indica</i> , <i>Cyperus victoriensis</i> , <i>Basilicum polystachion</i> , <i>Alternanthera denticulata</i> , <i>Neptunia monosperma</i> , <i>Cyperus</i> sp.,	11
Other spp.:	
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Harrisia martinii</i>	<5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	48.2			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	12			
Litter cover (1 m x 1 m plots)	% cover	0			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	130			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	1			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	6			
Large eucalypts	no. / ha	28			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	16			
Tree canopy cover	%	40			
Native shrub cover	%	NA			
Native perennial grass cover	%	3			
Organic litter cover	%	15			
Coarse woody debris	m / ha	530			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	16
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	10
Large trees	15	10	Mobility	10	10
Fallen woody material	5	2	Site location	5	1
Weed cover	10	10	Total	50	33
Litter cover	5	0	Site + landscape	106	83
Total	80	67	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	116

Habitat quality score:

7

Site photos



Start point, facing NW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: 3.27BC02 – Painted Snipe habitat	Assessor – Bruce McLennan
Property: Wynette	Date: 07/05/2018
Bioregion: Brigalow Belt	Sub-region: Northern Bowen Basin
State mapped RE: 11.3.27b	Observed RE: 11.3.27f
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.15956; 148.34442
50 m (centre point):	-22.15915; 148.34442
100 m (end point):	-22.15864; 148.34442
Elevation (mAHD):	191
General Site Description	
Landform	Closed depression – flood channel
Soil	Light clay and alluvial sands
Dominant vegetation observed	Forest Red gum woodland on sedgy ephemeral swamps
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	46
Number of large Eucalypt trees:	13
Non-Eucalypt large tree DBH (cm): (from benchmark document)	34
Number of large Non-Eucalypt trees:	26
Total large trees/ha:	0
Tree canopy (EDL) height (m):	25
Sub-canopy height (m):	10
Emergent height (m):	na
Total tree species richness: <i>E. tereticornis</i> , <i>Acacia salicina</i> , <i>E. tereticornis</i> x <i>E. platyphylla</i>	3
50 x 10 m area	
Shrub spp. richness: <i>E. tereticornis</i> , <i>Ludwigia octovalvis</i>	1
Grass spp. richness: <i>Eriochloa proceras</i> , <i>Dinebra decipiens</i> , <i>Digitaria</i> sp., <i>Dichanthium</i> sp., <i>Eragrostis elongata</i> , <i>Cynodon dactylon</i> , <i>Brachyachne convergens</i>	7
Forb spp. richness: <i>Marsilea mutica</i> , <i>Sesbania cannabina</i> , <i>Juncus usitatus</i> , <i>Aeschynomene indica</i> , <i>Cyperus exaltatus</i> , <i>Basilicum polystachion</i> , <i>Persicaria strigosa</i> , <i>Cucumis argenteus</i>	8
Other spp.:	
Weed spp. and cover as % of area: <i>Eclipta prostrata</i> , <i>Symphyotrichum subulatum</i> , <i>Melochia pyramidata</i> , <i>Passiflora foetida</i> , <i>Erigeron bonariensis</i> , <i>Xanthium occidentale</i> , <i>Macroptilium lathyroides</i>	5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	82.4			
Shrub canopy cover (100 m canopy intercept)	% cover	1.6			
Native perennial grass cover (1 m x 1 m plots)	% cover	16			
Litter cover (1 m x 1 m plots)	% cover	66			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	250			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	1			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	6			
Large eucalypts	no. / ha	46			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	16			
Tree canopy cover	%	40			
Native shrub cover	%	NA			
Native perennial grass cover	%	3			
Organic litter cover	%	15			
Coarse woody debris	m / ha	530			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	2
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	5	Total:	26	18
Tree canopy cover	5	5	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	5	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	10	Mobility	10	10
Fallen woody material	5	2	Site location	5	1
Weed cover	10	10	Total	50	28
Litter cover	5	3	Site + landscape	106	88
Total	80	70	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	116

Habitat quality score:

7

Site photos



Start point, facing N



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.17BC01 – Painted Snipe habitat		Assessor – Bruce McLennan	
Property: Iffley		Date: 07/05/2018	
Bioregion: Brigalow Belt		Sub-region: Isaac – Comet Downs	
State mapped RE: 11.5.17		Observed RE: 11.5.17	
Transect Co-ordinates (Datum) General Site Description			
0 m (start of transect):		-22.22313; 148.35306	
50 m (centre point):		-22.22321; 148.35350	
100 m (end point):		-22.22334; 148.35397	
Elevation (mAHD):		203	
General Site Description			
Landform		Closed depression	
Soil		Light clay	
Dominant vegetation observed		Grasses and sedges – wetland with mostly dead canopy	
100 x 50 m area (0.5 ha)			
Dominant canopy or EDL species with evidence of recruitment (%):		0	
Eucalypt large tree DBH (cm): (from benchmark document)		44	
Number of large Eucalypt trees:		6	
Non-Eucalypt large tree DBH (cm): (from benchmark document)		NA	
Number of large Non-Eucalypt trees:		0	
Total large trees/ha:		12	
Tree canopy (EDL) height (m):		13	
Sub-canopy height (m):		Not recorded	
Emergent height (m):		NA	
Total tree species richness: <i>Eucalyptus populnea</i>		1	
50 x 10 m area			
Shrub spp. richness:		0	
Grass spp. richness: <i>Brachyachne convergens, Dinebra decipiens, Diplachne fusca var. fusca</i>		3	
Forb spp. richness: <i>Ludwigia peploides, Cyperus exaltatus, Persicaria attenuata, Basilicum polystachion, Polygonum plebeium, Eleocharis plana, Glinus lotoides</i>		7	
Other spp.:			
Weed spp. and cover as % of area: <i>Echinochloa colona, Stylosanthes scabra, Eclipta prostrata, Cucumis anquria var. anquria</i>		<5	

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	0			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	8			
Litter cover (1 m x 1 m plots)	% cover	83			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	25			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	31			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	0	Size of patch	10	0
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	2.5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	5	Total:	26	9
Tree canopy cover	5	0	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	10
Native perennial grass cover	5	1	Quality of shelter	10	10
Large trees	15	5	Mobility	10	10
Fallen woody material	5	0	Site location	5	1
Weed cover	10	10	Total	50	38
Litter cover	5	3	Site + landscape	106	48.5
Total	80	39.5	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	86.5

Habitat quality score:

6

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 5.17BC02 – Painted Snipe habitat		Assessor – Bruce McLennan
Property: Wynette		Date: 19/05/2018
Bioregion: Brigalow Belt		Sub-region: Isaac – Comet Downs
State mapped RE: 11.5.17		Observed RE: 11.5.17
Transect Co-ordinates (Datum) General Site Description		
0 m (start of transect):		-22.16917; 148.32504
50 m (centre point):		-22.16940; 148.32463
100 m (end point):		-22.16963; 148.32419
Elevation (mAHD):		202
General Site Description		
Landform		Closed depression
Soil		Light clay
Dominant vegetation observed		Forest red gum woodland over a grassy depression
100 x 50 m area (0.5 ha)		
Dominant canopy or EDL species with evidence of recruitment (%):		100
Eucalypt large tree DBH (cm): (from benchmark document)		44
Number of large Eucalypt trees:		3
Non-Eucalypt large tree DBH (cm): (from benchmark document)		NA
Number of large Non-Eucalypt trees:		0
Total large trees/ha:		6
Tree canopy (EDL) height (m):		17
Sub-canopy height (m):		6
Emergent height (m):		NA
Total tree species richness:		2
<i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i>		
50 x 10 m area		
Shrub spp. richness: <i>Ludwigia octovalvis</i>		1
Grass spp. richness: <i>Eragrostis elongata</i> , <i>Dinebra decipiens</i> , <i>Cynodon dactylon</i>		3
Forb spp. richness: <i>Chamaecrista</i> sp., <i>Cyperus victoriensis</i> , <i>Polygonum plebeium</i> , <i>Cyperus</i> sp., <i>Glinus lotoides</i> , <i>Cyperus difformis</i>		6
Other spp.:		-
Weed spp. and cover as % of area: <i>Echinochloa colona</i> , <i>Urochloa mosambicensis</i> , <i>Eclipta prostrata</i> , <i>Lanana montevidensis</i> , <i>Passiflora foetida</i> , <i>Heliotropium indicum</i> , <i>Senna occidentalis</i>		<5

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	7.6			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	42			
Litter cover (1 m x 1 m plots)	% cover	19			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	735			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	3			
Shrubs	no. species	1			
Grasses	no. species	3			
Forbs	no. species	7			
Large eucalypts	no. / ha	29			
Large non-eucalypts	no. / ha	NA			
Tree canopy median height	m	18			
Tree canopy cover	%	41			
Native shrub cover	%	3			
Native perennial grass cover	%	20			
Organic litter cover	%	3			
Coarse woody debris	m / ha	330			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	0
Native plant species richness: Trees	5	3	Context	5	4
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	5	Proximity to Ecological Corridors	6	0
Native plant species richness: Forbs	5	3	Total:	26	9
Tree canopy cover	5	2	Habitat:		
Tree canopy height	5	5	Threats	15	7
Shrub layer cover	5	0	Quality of foraging	10	5
Native perennial grass cover	5	5	Quality of shelter	10	5
Large trees	15	5	Mobility	10	10
Fallen woody material	5	2	Site location	5	1
Weed cover	10	10	Total	50	28
Litter cover	5	5	Site + landscape	106	64
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	92

Habitat quality score:

6

Site photos



Start point, facing SW



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.25BC01 – Watercourse vegetation	Assessor – Bruce McLennan
Property: Deverill	Date: 17/05/2018
Bioregion: Brigalow Belt	Sub-region: Isaac – Comet Downs
State mapped RE: 11.3.25	Observed RE: 11.3.25
Transect Co-ordinates (Datum) General Site Description	
0 m (start of transect):	-22.16626; 148.38077
50 m (centre point):	-22.16641; 148.38126
100 m (end point):	Not recorded
Elevation (mAHD):	185
General Site Description	
Landform	Stream channel and banks
Soil	Sand
Dominant vegetation observed	Forest red gum and River she oak on watercourse
100 x 50 m area (0.5 ha)	
Dominant canopy or EDL species with evidence of recruitment (%):	100
Eucalypt large tree DBH (cm): (from benchmark document)	49
Number of large Eucalypt trees:	9
Non-Eucalypt large tree DBH (cm): (from benchmark document)	29
Number of large Non-Eucalypt trees:	13
Total large trees/ha:	44
Tree canopy (EDL) height (m):	22
Sub-canopy height (m):	8
Emergent height (m):	NA
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Casuarina cunninghamiana</i> , <i>Melaleuca linariifolia</i> , <i>Acacia salicina</i> , <i>Ficus opposita</i>	6
50 x 10 m area	
Shrub spp. richness: <i>Lysiphyllum hookeri</i> , <i>Ficus opposita</i> , <i>Atalaya hemiglauca</i> , <i>Jasminum didymum subsp. lineare</i> , <i>Grewia latifolia</i>	5
Grass spp. richness: <i>Chrysopogon fallax</i>	1
Forb spp. richness: <i>Pterocaulon redolens</i>	1
Other spp.: <i>Parsonsia lanceolata</i> , <i>Eustrephus latifolius</i> , <i>Cymbidium canaliculatum</i>	3
Weed spp. and cover as % of area: <i>Megathyrsus maximus</i> , <i>Cenchrus ciliaris</i> , <i>Melinis repens</i> , <i>Lantana camara</i> , <i>Stachytarpheta cayennensis</i>	90

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	85.2			
Shrub canopy cover (100 m canopy intercept)	% cover	5.7			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	30			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	110			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	2
Native plant species richness: Shrubs	5	5	Connectivity	5	4
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	22
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	3	Quality of foraging	10	0
Native perennial grass cover	5	0	Quality of shelter	10	0
Large trees	15	15	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	3	Site + Landscape	106	77
Total	80	55	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	77

Habitat quality score:

7

Site photos



Start point, facing ESE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Site: Impact 3.25BC02 – Watercourse vegetation		Assessor – Bruce McLennan	
Property: Winchester Downs		Date: 23/05/2018	
Bioregion: Brigalow Belt		Sub-region: Northern Bowen Basin	
State mapped RE: 11.3.25		Observed RE: 11.3.25	
Transect Co-ordinates (Datum) General Site Description			
0 m (start of transect):		-22.1215; 148.17401	
50 m (centre point):		-22.12112; 148.17416	
100 m (end point):		-22.12069; 148.17436	
Elevation (mAHD):		200	
General Site Description			
Landform		Stream channel and banks	
Soil		Sand	
Dominant vegetation observed		Forest red gum and River she oak on creek channels	
100 x 50 m area (0.5 ha)			
Dominant canopy or EDL species with evidence of recruitment (%):		100	
Eucalypt large tree DBH (cm): (from benchmark document)		49	
Number of large Eucalypt trees:		2	
Non-Eucalypt large tree DBH (cm): (from benchmark document)		29	
Number of large Non-Eucalypt trees:		3	
Total large trees/ha:		10	
Tree canopy (EDL) height (m):		20	
Sub-canopy height (m):		14	
Emergent height (m):		NA	
Total tree species richness: <i>Eucalyptus tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Casuarina cunninghamiana</i> , <i>Melaleuca bracteata</i> , <i>Lysiphyllum hookeri</i> , <i>Corymbia clarksoniana</i>		6	
50 x 10 m area			
Shrub spp. richness: <i>Lysiphyllum hookeri</i> , <i>Acacia salicina</i> , <i>Atalaya hemiglauca</i> , <i>Maireana microphylla</i>		4	
Grass spp. richness: <i>Chrysopogon fallax</i>		1	
Forb spp. richness: <i>Nyssanthes erecta</i> , <i>Oxalis</i> sp., <i>Rostellularia adscendens</i> , <i>Melhania oblongifolia</i> , <i>Cucumis</i> sp., <i>Evolvulus alsinoides</i> , <i>Vittadinia</i> sp., <i>Einadia</i> sp.		8	
Other spp.:			
Weed spp. and cover as % of area: <i>Megathyrsus maximus</i> , <i>Sida coromandelianum</i> , <i>Parthenium hysterophorus</i> , <i>Stylosanthes scabra</i> , <i>Cenchrus ciliaris</i> , <i>Sida rhombifolia</i> , <i>Scoparia dulcis</i> , <i>Melinis repens</i> , <i>Sida cordifolia</i> , <i>Urochloa mosambicensis</i> , <i>Bothriochloa pilosa</i> , <i>Sida spinescens</i> , <i>Emilia sonchifolia</i> , <i>Tridax procumbens</i>		90	

Plot attributes (actual)	Unit of measure	Measurement			
Tree canopy cover (100 m canopy intercept)	% cover	57.5			
Shrub canopy cover (100 m canopy intercept)	% cover	0			
Native perennial grass cover (1 m x 1 m plots)	% cover	0			
Litter cover (1 m x 1 m plots)	% cover	60			
Coarse woody debris (from 50 m x 20 m plot)	m / ha	360			
Benchmark attributes (source DNRME)	Unit of measure	Measurement			
Recruitment of woody perennial species in EDL	%	100			
Native plant species richness					
Trees	no. species	4			
Shrubs	no. species	2			
Grasses	no. species	8			
Forbs	no. species	12			
Large eucalypts	no. / ha	14			
Large non-eucalypts	no. / ha	7			
Tree canopy median height	m	23			
Tree canopy cover	%	22			
Native shrub cover	%	1			
Native perennial grass cover	%	12			
Organic litter cover	%	15			
Coarse woody debris	m / ha	375			
Site assessment scoring sheet					
Scoring sheet					
Attribute	Wooded ecosystem Weighting	Offset Score	Attribute	Wooded ecosystem Weighting	Offset Score
Site - based			Landscape scale		
Recruitment of woody perennial species	5	5	Size of patch	10	10
Native plant species richness: Trees	5	5	Context	5	5
Native plant species richness: Shrubs	5	5	Connectivity	5	5
Native plant species richness: Grasses	5	3	Proximity to Ecological Corridors	6	6
Native plant species richness: Forbs	5	3	Total:	26	26
Tree canopy cover	5	3	Habitat:		
Tree canopy height	5	5	Threats	15	0
Shrub layer cover	5	0	Quality of foraging	10	0
Native perennial grass cover	5	0	Quality of shelter	10	0
Large trees	15	10	Mobility	10	0
Fallen woody material	5	5	Site location	5	0
Weed cover	10	0	Total	50	0
Litter cover	5	3	Site + Landscape	106	73
Total	80	47	TOTAL SCORE (Site + landscape + habitat (where relevant))	156	73

Habitat quality score:

7

Site photos



Start point, facing NNE



Mid-point, facing north



Mid-point, facing south



Mid-point, facing east



Mid-point, facing west



Quadrat – 30 m



Quadrat – 40 m



Quadrat – 50 m



Quadrat – 60 m



Quadrat – 70 m

Appendix F: Least Concern flora species recorded from the Study area

Table F1 Least Concern flora species recorded from the Study area

Scientific name	Family	Common name	Comments
<i>Abutilon fraseri</i> subsp. <i>fraseri</i>	Malvaceae	Dwarf lantern flower	
<i>Abutilon otocarpum</i>	Malvaceae	Desert lantern	
<i>Abutilon oxycarpum</i> var. <i>incanum</i>	Malvaceae	Flannel weed	
<i>Abutilon oxycarpum</i> var. <i>oxycarpum</i>	Malvaceae	Flannel weed	
<i>Acacia excelsa</i>	Mimosaceae	Ironwood	
<i>Acacia faucium</i>	Mimosaceae		
<i>Acacia harpophylla</i>	Mimosaceae	Brigalow	Key species in Brigalow TEC, host to a range of <i>Jalmenus</i> spp. including <i>Jalmenus ebulus</i> (Brigalow blue) listed as Vulnerable under the Qld NC Act.
<i>Acacia julifera</i>	Mimosaceae		
<i>Acacia oswaldii</i>	Mimosaceae	Nelia	Host to twin spotted lineblue butterfly
<i>Acacia rhodoxylon</i>	Mimosaceae	Rosewood	
<i>Acacia salicina</i>	Mimosaceae	Sally wattle	Common in most communities but widespread riparian species - Host to twin spotted lineblue and wattle blue butterflies
<i>Acacia shirleyi</i>	Mimosaceae	Red lancewood	
<i>Acacia sparsiflora</i>	Mimosaceae	Currawang	
<i>Acalypha eremorum</i>	Euphorbiaceae	Soft acalypha	Vine thicket species
<i>Achyranthes aspera</i>	Amaranthaceae	Chaff flower	
<i>Acronychia laevis</i>	Rutaceae	Hard aspen	
<i>Aeschynomene indica</i>	Fabaceae	Budda pea	Host for the Common Grass Yellow
<i>Afrohybanthus enneaspermus</i>	Violaceae	Purple spade flower	Host to the glasswing butterfly
<i>Ajuga australis</i>	Lamiaceae	Austral trumpet	
<i>Albizia canescens</i>	Mimosaceae		Host to tailed emperor butterfly
<i>Alectryon connatus</i>	Sapindaceae	Grey birds eye	Vine thicket species, edible fruit and seeds, host plant for Macqueen's Imperial blue
<i>Alectryon diversifolius</i>	Sapindaceae	Scrub boonaree	Vine thicket and Brigalow species, edible fruit and seeds, host plant for at least 6 butterfly species

Scientific name	Family	Common name	Comments
<i>Alectryon oleifolius</i>	Sapindaceae	Boonaree	
<i>Allocasuarina luehmannii</i>	Casuarinaceae	Bull oak	Seeds eaten by Glossy black cockatoo
<i>Alloteropsis semialata</i>	Poaceae	Cockatoo grass	
<i>Alphitonia excelsa</i>	Rhamnaceae	Red ash	Host plant for indigo flash, large green-banded blue, copper jewel and fiery jewel butterflies
<i>Alstonia constricta</i>	Apocynaceae	Bitterbark	
<i>Alternanthera denticulata</i> var. <i>denticulata</i>	Amaranthaceae	Lesser joyweed	Host to the common eggfly
<i>Alternanthera denticulata</i> var. <i>micrantha</i>	Amaranthaceae	Lesser joyweed	
<i>Alternanthera nana</i>	Amaranthaceae	Hairy joyweed	
<i>Alternanthera nodiflora</i> var. <i>nodiflora</i>	Amaranthaceae	Common joyweed	
<i>Alyxia ruscifolia</i>	Apocynaceae	Chain fruit	
<i>Ammannia multiflora</i>	Lythraceae	Jerry jerry	
<i>Ancistrachne uncinulata</i>	Poaceae	Hooky grass	
<i>Apophyllum anomalum</i>	Capparaceae	Warrior bush	Common in Brigalow communities, host for Caper white and Pearl white butterflies
<i>Apowollastonia spilanthisoides</i>	Asteraceae	Native wedelia	
<i>Archidendropsis basaltica</i>	Mimosaceae	Dead finish	
<i>Aristida calycina</i>	Poaceae	Dark wire grass	Widespread in most eucalypt communities
<i>Aristida holathera</i>	Poaceae	Erect kerosene grass	
<i>Aristida ingrata</i>	Poaceae	Unpleasant wiregrass	
<i>Aristida jerichoensis</i>	Poaceae	Jericho wire grass	Widespread in drier areas
<i>Aristida personata</i>	Poaceae	Purple speargrass	
<i>Aristida queenslandica</i> var. <i>dissimilis</i>	Poaceae	Wiregrass	

Scientific name	Family	Common name	Comments
<i>Arundinella nepalensis</i>	Poaceae	Reed grass	
<i>Astrelia lappacea</i>	Poaceae	Curly Mitchell grass	
<i>Atalaya hemiglauc</i>	Sapindaceae	Whitewood	Host to the Wattle blue and Saltbush Blue
<i>Atriplex muelleri</i>	Chenopodiaceae	Soda bush	
<i>Basilicum polystachion</i>	Lamiaceae	Musk basil	
<i>Bonamia media</i>	Convolvulaceae		
<i>Bothriochloa bladhii</i>	Poaceae	Forest bluegrass	Widespread
<i>Bothriochloa erianthoides</i>	Poaceae	Satintop grass	
<i>Brachyachne convergens</i>	Poaceae	Annual couch	
<i>Breynia oblongifolia</i>	Phyllanthaceae	Coffee bush	Host to common grass yellow butterfly
<i>Bridelia leichhardtii</i>	Phyllanthaceae	Small leaved scrub ironbark	
<i>Bursaria incana</i>	Pittosporaceae	Prickly pine	Host to dull copper butterfly
<i>Calotis cuneata</i>	Asteraceae	Burr daisy	
<i>Calotis cuneifolia</i>	Asteraceae	Blue Burr daisy	
<i>Calotis dentex</i>	Asteraceae	White burr daisy	
<i>Canavalia papuana</i>	Fabaceae	Wild jack bean	
<i>Capillipedium spicigerum</i>	Poaceae	Scented top	
<i>Capparis arborea</i>	Capparaceae	Native pomegranate	Edible fruit, host for caper white, chalky white, southern pearl white, and Australian gull butterflies
<i>Capparis lasiantha</i>	Capparaceae	Nipan	Edible fruits, host for Caper white and narrow winged pearl white butterflies
<i>Capparis loranthifolia</i>	Capparaceae	Narrow leaved bumbil	Edible fruits
<i>Capparis mitchellii</i>	Capparaceae	Wild orange	Edible fruits, host for caper white and narrow winged pearl white butterflies
<i>Capparis umbonata</i>	Capparaceae	Wild orange	Edible fruits, Host for Caper white butterflies
<i>Carissa ovata</i>	Apocynaceae	Currant bush	Edible fruits and host for common crow butterfly
<i>Cassia brewsteri</i>	Caesalpiniaceae	Bean tree or Leichhardt bean	Widespread low tree, host for common migrant, lemon migrant, tailed emperor and common pencilled blue butterflies

Scientific name	Family	Common name	Comments
<i>Casuarina cristata</i>	Casuarinaceae	Belah	Component of Brigalow communities
<i>Casuarina cunninghamiana</i>	Casuarinaceae	River she oak	
<i>Cayratia clematidea</i>	Vitaceae	Native grape	
<i>Centipeda minima</i>	Asteraceae	Snuffweed	
<i>Chamaecrista absus</i>	Caesalpiniaceae	Tropical sensitive pea	
<i>Chamaecrista nomame</i>	Caesalpiniaceae	Five leaf Cassia	Host for the No Brand Grass Yellow
<i>Chrysocephalum apiculatum</i>	Asteraceae	Yellow buttons	
<i>Chrysopogon fallax</i>	Poaceae	Golden beard grass	Host for the Pale-orange Darter
<i>Cissus oblonga</i>	Vitaceae	Native grape	
<i>Citrus glauca</i>	Rutaceae	Native lime	Brigalow community species, edible fruits and host to the dingy swallowtail butterfly
<i>Cleistochloa subjuncea</i>	Poaceae		
<i>Clematicissus opaca</i>	Vitaceae	Slender grape	Edible fruit, edible tuber
<i>Cleome viscosa</i>	Capparaceae	Tick weed	
<i>Commelina diffusa</i>	Commelinaceae	Wandering Jew	
<i>Commelina ensifolia</i>	Commelinaceae	Wandering Jew	
<i>Corymbia clarksoniana</i>	Myrtaceae	Clarkson's bloodwood	The most common Corymbia in the study area, Nectary
<i>Corymbia dallachyana</i>	Myrtaceae	Dallachy's gum	
<i>Corymbia erythrophloia</i>	Myrtaceae	Red bloodwood	
<i>Corymbia tessellaris</i>	Myrtaceae	Carbeen	Host to dark oakblue butterfly, Nectary
<i>Corymbia trachyphloia</i>	Myrtaceae	Small fruited bloodwood	
<i>Crinum flaccidum</i>	Amaryllidaceae	Murray lily	
<i>Crotalaria mitchellii</i>	Fabaceae	Yellow rattlepod	Host for Long tailed pea blue butterfly
<i>Croton insularis</i>	Euphorbiaceae	Silver croton	
<i>Cucumis argenteus</i>	Cucurbitaceae		
<i>Cyanthillium cinereum</i>	Asteraceae	Vernonia	

Scientific name	Family	Common name	Comments
<i>Cymbidium canaliculatum</i>	Orchidaceae	Black orchid	
<i>Cymbopogon bombycinus</i>	Poaceae	Silky oil grass	
<i>Cymbopogon oblectus</i>	Poaceae	Silky heads	
<i>Cymbopogon queenslandicus</i>	Poaceae	Barbed wire grass	
<i>Cymbopogon refractus</i>	Poaceae	Barbed wire grass	Host for the No-brand Grass Dart
<i>Cyperus bifax</i>	Cyperaceae	Western nut grass	
<i>Cyperus concinnus</i>	Cyperaceae		
<i>Cyperus difformis</i>	Cyperaceae	Dirty dora	
<i>Cyperus exaltatus</i>	Cyperaceae	Giant sedge	
<i>Cyperus gracilis</i>	Cyperaceae	Slender flat-sedge	Priority species
<i>Cyperus pygmaeus</i>	Cyperaceae		
<i>Denhamia cunninghamii</i>	Celastraceae	Orange berry bush	
<i>Denhamia oleaster</i>	Celastraceae	Stiff Denhamia	
<i>Desmodium brachypodum</i>	Fabaceae	Large tick trefoil	
<i>Desmodium macrocarpum</i>	Fabaceae	Large podded trefoil	
<i>Dianella nervosa</i>	Hemerocallidaceae		
<i>Dichanthium fecundum</i>	Poaceae	Curly bluegrass	
<i>Dichanthium sericeum</i>	Poaceae	Queensland bluegrass	Host to the Dingy Bushbrown
<i>Digitaria ammophila</i>	Poaceae	Silky umbrella grass	
<i>Digitaria brownii</i>	Poaceae	Cotton panic	
<i>Digitaria ramularis</i>	Poaceae		
<i>Dinebra decipiens</i> var. <i>decipiens</i>	Poaceae		
<i>Diospyros humilis</i>	Ebenaceae	Small leafed ebony	Edible fruits
<i>Diplachne fusca</i> var. <i>fusca</i>	Poaceae	Brown beetle grass	
<i>Dipteracanthus australasicus</i> subsp. <i>corynothecus</i>	Acanthaceae		

Scientific name	Family	Common name	Comments
<i>Dodonaea lanceolata</i> var. <i>subsessilifolia</i>	Sapindaceae	Hop bush	
<i>Drypetes deplanchei</i>	Putranjivaceae	Yellow tulipwood, Grey boxwood	
<i>Duma florulenta</i>	Polygonaceae	Lignum	
<i>Eclipta prostrata</i>	Asteraceae	White Eclipta	
<i>Ehretia membranifolia</i>	Boraginaceae	Poison peach	
<i>Ehretia saligna</i>	Boraginaceae		
<i>Einadia nutans</i>	Chenopodiaceae		
<i>Elaeodendron australe</i>	Celastraceae	Cassine	
<i>Eleocharis blakeana</i>	Cyperaceae	Blake's spike rush	Priority species
<i>Eleocharis philippinensis</i>	Cyperaceae	Spikerush	
<i>Eleocharis plana</i>	Cyperaceae	Flat spike sedge	
<i>Enchylaena tomentosa</i>	Chenopodiaceae	Ruby salt bush	
<i>Enneapogon lindleyanus</i>	Poaceae	Conetop nineawn	
<i>Enneapogon truncatus</i>	Poaceae		
<i>Enneapogon virens</i>	Poaceae		
<i>Enteropogon acicularis</i>	Poaceae	Curly twirly windmill grass	Host to the Inland Sand Skipper
<i>Enteropogon ramosus</i>	Poaceae	Curly windmill grass	
<i>Enteropogon unispiceus</i>	Poaceae		
<i>Eragrostis elongata</i>	Poaceae	Clustered lovegrass	
<i>Eragrostis lacunaria</i>	Poaceae	Purple lovegrass	
<i>Eragrostis parviflora</i>	Poaceae	Weeping lovegrass	
<i>Eragrostis sororia</i>	Poaceae	Forest lovegrass	
<i>Eragrostis speciosa</i>	Poaceae	Handsome lovegrass	
<i>Eragrostis tenellula</i>	Poaceae	Delicate lovegrass	

Scientific name	Family	Common name	Comments
<i>Eremophila debilis</i>	Scrophulariaceae	Devil's apple	Edible fruit
<i>Eremophila deserti</i>	Scrophulariaceae	Ellangowan poison bush	Host for common rayed blue butterfly
<i>Eremophila maculata</i> subsp. <i>maculata</i>	Scrophulariaceae	Emu bush	
<i>Eremophila mitchellii</i>	Scrophulariaceae	False sandalwood	
<i>Eriachne mucronata</i>	Poaceae	Wanderrie grass	
<i>Eriochloa procera</i>	Poaceae	Slender cup grass	
<i>Erythrina vespertilio</i>	Fabaceae	Bat's wing coral	
<i>Erythroxylum australe</i>	Erythroxylaceae	Cocaine	Widespread shrub
<i>Eucalyptus cambageana</i>	Myrtaceae	Dawson gum	Component of Brigalow TEC and Endangered RE 11.4.8
<i>Eucalyptus coolabah</i>	Myrtaceae	Coolabah	Riparian tree species
<i>Eucalyptus crebra</i>	Myrtaceae	Narrow leafed ironbark	Nectary
<i>Eucalyptus crebra</i> x. <i>E. populnea</i>	Myrtaceae		
<i>Eucalyptus exserta</i>	Myrtaceae	Queensland peppermint	
<i>Eucalyptus orgadophila</i>	Myrtaceae	Mountain coolabah	
<i>Eucalyptus platyphylla</i>	Myrtaceae	Poplar gum	
<i>Eucalyptus populnea</i>	Myrtaceae	Poplar box	Key component of REs 11.3.2 ad 11.5.3
<i>Eucalyptus tereticornis</i>	Myrtaceae	Queensland blue gum	Nectary
<i>Eucalyptus thozetiana</i>	Myrtaceae	Thozet's ghost gum	
<i>Eulalia aurea</i>	Poaceae	Silky browntop	Host to the Large Yellow Grass Dart
<i>Euphorbia drummondii</i>	Euphorbiaceae	Caustic weed	
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	Euphorbiaceae	Bottle tree caustic	

Scientific name	Family	Common name	Comments
<i>Euroschinus falcata</i>	Anacardiaceae	Ribbonwood	
<i>Eustrephus latifolius</i>	Laxmanniaceae	Wombat berry	Edible roots, fruit suitable for birds
<i>Everistia vacciniifolia</i>	Rubiaceae	Small leafed canthium	
<i>Evolvulus alsinoides</i> var. <i>decumbens</i>	Convolvulaceae	Tropical speedwell	Host for meadow argus butterfly
<i>Exocarpos latifolius</i>	Santalaceae	Cherry ballart	Edible fruits – Host for the Common Red-eye and Fiery Jewel butterflies.
<i>Ficus rubiginosa</i>	Moraceae	Rock fig	
<i>Fimbristylis dichotoma</i>	Cyperaceae	Common fringe-rush	
<i>Flindersia australis</i>	Rutaceae	Crows ash	Host to the orchard butterfly
<i>Flindersia dissosperma</i>	Rutaceae	Scrub leopard ash	
<i>Flueggea leucopyrus</i>	Phyllanthaceae	Bushweed	
<i>Galactia tenuiflora</i>	Fabaceae	Snail flower	
<i>Geijera parviflora</i>	Rutaceae	Wilga	Host to the orchard butterfly, dingy swallowtail and tailed citrus swallowtail butterflies
<i>Geijera salicifolia</i>	Rutaceae	Scrub wilga	Host to the orchard butterfly, Macleay's swallowtail, blue triangle and Ulysses butterflies
<i>Glinus lotoides</i>	Molluginaceae	Hairy carpet weed	Host to spotted grass blue butterfly
<i>Glinus oppositifolius</i>	Molluginaceae		Host to spotted grass blue butterfly
<i>Glycine tabacina</i>	Fabaceae	Glycine pea	Host to the Scalloped Grass Yellow
<i>Glycine tomentella</i>	Fabaceae	Woolly glycine	Host to the Common Grass Blue
<i>Glycine trifoliata</i>	Fabaceae		
<i>Goodenia glabra</i>	Goodeniaceae	Smooth goodenia	
<i>Goodenia hirsuta</i>	Goodeniaceae		
<i>Grevillea parallela</i>	Proteaceae	Silver oak	
<i>Grevillea striata</i>	Proteaceae	Beefwood	
<i>Grewia latifolia</i>	Malvaceae	Dysentery bush	Edible fruit
<i>Grewia retusifolia</i>	Malvaceae	Dysentery bush	Edible fruit
<i>Hakea lorea</i>	Proteaceae	Bootlace oak	

Scientific name	Family	Common name	Comments
<i>Heliotropium ovalifolium</i>	Boraginaceae	Grey leaved heliotrope	
<i>Heteropogon contortus</i>	Poaceae	Black speargrass	
<i>Heteropogon triticeus</i>	Poaceae	Giant speargrass	
<i>Hibiscus meraukensis</i>	Malvaceae		
<i>Hibiscus sturtii</i> subsp. <i>sturtii</i>	Malvaceae	Sturt's hibiscus	
<i>Hovea longipes</i>	Fabaceae	Purple pea bush	
<i>Hoya australis</i> subsp. <i>australis</i>	Apocynaceae	Waxvine	
<i>Imperata cylindrica</i>	Poaceae	Blady grass	
<i>Indigofera australis</i>	Fabaceae	Australian indigo	
<i>Indigofera colutea</i>	Fabaceae	Sticky indigo	Host to the Grass Jewel
<i>Indigofera linifolia</i>	Fabaceae		
<i>Indigofera linnaei</i>	Fabaceae	Birdsville indigo	
<i>Ipomoea plebeia</i>	Convolvulaceae	Bell vine	
<i>Ipomoea polymorpha</i>	Convolvulaceae	Morning glory	
<i>Jacquemontia paniculata</i> var. <i>paniculata</i>	Convolvulaceae	Mauve clustervine	
<i>Jasminum didymum</i> subsp. <i>lineare</i>	Oleaceae	Jasmine	Edible fruit
<i>Juncus usitatus</i>	Juncaceae	Common rush	
<i>Leersia hexandra</i>	Poaceae	Southern cut grass	Host to the Orange Grass Dart, Swamp Darter, Hyaline Swift, Grey Swift and Evening Brown
<i>Leptochloa digitata</i>	Poaceae	Umbrella canegrass	
<i>Lobelia concolor</i>	Campanulaceae	Poison pratia	
<i>Lomandra confertifolia</i> subsp. <i>pallida</i>			
<i>Lomandra filiformis</i>	Laxmanniaceae	Wattle matt rush	
<i>Lomandra longifolia</i>	Laxmanniaceae	Long leafed matt	Orange ochre, Small Orange Ochre,

Scientific name	Family	Common name	Comments
		rush	
<i>Ludwigia octovalvis</i>	Onagraceae	Willow primrose	
<i>Ludwigia peploides</i> subsp. <i>montevidensis</i>	Onagraceae	Water primrose	
<i>Lysiphyllum carronii</i>	Caesalpiniaceae	Red bauhinia	
<i>Lysiphyllum hookeri</i>	Caesalpiniaceae	White bauhinia	
<i>Maireana microphylla</i>	Chenopodiaceae		
<i>Marsdenia viridiflora</i>	Apocynaceae		Host to the Common Crow
<i>Marsilea drummondii</i>	Marsileaceae	Common nardoo	Aquatic fern, edible sporing body
<i>Marsilea mutica</i>	Marsileaceae	Shiny nardoo	Edible fruits
<i>Melaleuca bracteata</i>	Myrtaceae	Black tea tree	Nectary
<i>Melaleuca fluviatilis</i>	Myrtaceae	River tea tree	Nectary
<i>Melaleuca leucadendra</i>	Myrtaceae	Long leaved paperbark	
<i>Melaleuca linariifolia</i>	Myrtaceae	Snow in summer	Nectary
<i>Melaleuca viridiflora</i>	Myrtaceae	Tea tree	Nectary
<i>Melhania oblongifolia</i>	Pentapetaceae	Velvet hibiscus	
<i>Microlaena stipoides</i>	Poaceae	Meadow rice grass	Host to the Wedge Grass Skipper, Two-spotted Grass Skipper, Lilac Grass Skipper, White-banded Grass Dart, White-margined Grass Dart, Ringed Xenica, Silver Xenica, Common Brown and Spotted Brown.
<i>Minuria integerrima</i>	Asteraceae	Smooth minuria	
<i>Murdannia graminea</i>	Commelinaceae	Slug lily	
<i>Myoporum acuminatum</i>	Scrophulariaceae	Water bush	Edible fruit
<i>Myrsine variabilis</i>	Primulaceae	Mutton wood	
<i>Notelaea microcarpa</i>	Oleaceae	Native olive	Edible fruit
<i>Nymphoides geminata</i>	Menyanthaceae	Entire marshwort	
<i>Oldenlandia mitrasacmoides</i> subsp. <i>trachymenoides</i>	Rubiaceae		

Scientific name	Family	Common name	Comments
<i>Oplismenus aemulus</i>	Poaceae	Basket grass	
<i>Ottelia ovalifolia</i>	Hydrocharitaceae	Swamp lily	
<i>Owenia acidula</i>	Meliaceae	Emu apple	Edible fruit
<i>Oxalis radicata</i>	Oxalidaceae		
<i>Panicum decompositum</i>	Poaceae	Native millet	
<i>Panicum effusum</i>	Poaceae	Hairy panic	
<i>Parsonsia eucalyptophylla</i>	Apocynaceae	Gargaloo	Nectary, host plant for common crow butterfly
<i>Parsonsia lanceolata</i>	Apocynaceae	Northern silkpod	
<i>Parsonsia plaesiophylla</i>	Apocynaceae		
<i>Parsonsia straminea</i>	Apocynaceae	Monkey rope	
<i>Paspalidium caespitosum</i>	Poaceae	Brigalow grass	
<i>Paspalidium globoideum</i>	Poaceae	Shot grass	
<i>Pavetta australiense</i>	Rubiaceae		
<i>Pavetta granitica</i>	Rubiaceae		
<i>Persicaria attenuata</i>	Polygonaceae	Prince's plume	
<i>Persicaria decipiens</i>	Polygonaceae	Slender knotweed	
<i>Petalostigma pubescens</i>	Picrodendraceae	quinine	Edible fruits and host to the copper jewel butterfly
<i>Phyllanthus virgatus</i>	Phyllanthaceae	Creeping phyllanthus	
<i>Pittosporum angustifolium</i>	Pittosporaceae	Gumbi gumbi	
<i>Pittosporum spinescens</i>	Pittosporaceae	Large fruited orange thorn	Edible fruits, host to dull copper butterfly
<i>Planchonella cotinifolia</i>	Sapotaceae	Yellow lemon	
<i>Plectranthus parviflorus</i>	Lamiaceae	Cockspur flower	
<i>Polygonum plebeium</i>	Polygonaceae	Small knotweed	
<i>Portulaca oleracea</i>	Portulacaceae	Red pigweed	
<i>Pseuderanthemum variabile</i>	Acanthaceae	Pastel flower	Host to the Leafwing, Blue Egg-fly, Common Egg-fly, Danaid Egg-fly and Blue Argus
<i>Pseudognaphalium luteoalbum</i>	Asteraceae		

Scientific name	Family	Common name	Comments
<i>Psydrax odorata forma buxifolia</i>	Rubiaceae		
<i>Psydrax oleifolia</i>	Rubiaceae	Myrtle wood	Nectary
<i>Pterocaulon redolens</i>	Asteraceae	Pineapple daisy	
<i>Rhynchosia minima</i>	Fabaceae		
<i>Rorippa eustylis</i>	Brassicaceae		
<i>Rostellularia adscendens</i>	Acanthaceae		Host to the Blue Argus
<i>Rutidosia leucantha</i>	Asteraceae		
<i>Salsola australis</i>	Chenopodiaceae	Soft roly poly	
<i>Santalum lanceolatum</i>	Santalaceae	Sandalwood	Edible fruit and host to the wood white and northern jezebel butterflies
<i>Sarcostemma viminalis subsp. brunonianum</i>	Apocynaceae	Caustic vine	
<i>Sarga plumosum</i>	Poaceae	Plume sorghum	
<i>Scleria mackaviensis</i>	Cyperaceae		
<i>Sclerolaena tetracuspis</i>	Chenopodiaceae	Brigalow burr	
<i>Secamone elliptica</i>	Apocynaceae	Corky milk vine	Host to the Common Crow and Blue Tiger
<i>Senna coronilloides</i>	Caesalpiniaceae	Brigalow senna	Host for the Lemon Migrant, Common Grass Yellow and Small Grass Yellow
<i>Senna gaudichaudii</i>	Caesalpiniaceae	Gaudichaud's senna	
<i>Sesbania cannabina</i>	Fabaceae	Sesbania	Host to the Common Grass Yellow, Wattle Blue, Long-tailed Pea Blue and Spotted Pea Blue
<i>Setaria oplismenoides</i>	Poaceae	Setaria	
<i>Sida corrugata</i>	Malvaceae	Corrugated sida	
<i>Sida hackettiana</i>	Malvaceae		
<i>Sida rohlenae subsp. rohlenae</i>	Malvaceae	Shrub sida	
<i>Solanum ellipticum</i>	Solanaceae	Potato bush	
<i>Spermacoce brachystema</i>	Rubiaceae		
<i>Sphaeromorphaea australis</i>	Asteraceae	Nutheads	Host to the Meadow Argus

Scientific name	Family	Common name	Comments
<i>Sporobolus actinocladus</i>	Poaceae	Katoora grass	
<i>Sporobolus caroli</i>	Poaceae	Fairy grass	
<i>Sporobolus disjunctus</i>	Poaceae		
<i>Sporobolus elongatus</i>	Poaceae	Slender rats tail	
<i>Strychnos psilosperma</i>	Loganiaceae	Strychnine tree	
<i>Stylidium eriorhizum</i>	Stylidiaceae	Trigger plant	
<i>Terminalia oblongata</i>	Combretaceae	Yellow wood	Component of northern Brigalow communities, host for brown awl butterfly
<i>Themeda avenacea</i>	Poaceae	Oat grass	
<i>Themeda triandra</i>	Poaceae	Kangaroo grass	Host to the Spotted Grass Skipper, White-margined Grass Dart, Evening Brown, Dingy Bushbrown, Cedar Bushbrown, Orange Bushbrown, Orange Ringlet, Dingy Ringlet, Dingy Ring, Ringed Xenica, Klug's Xenica, Common Brown and Shouldered Brown.
<i>Tinospora smilacina</i>	Menispermaceae	Snake vine	
<i>Triflorensia ixoroides</i>	Rubiaceae		
<i>Trophis scandens</i>	Moraceae	Burny vine	
<i>Vachellia bidwillii</i>	Mimosaceae	Cork bark wattle	
<i>Ventilago viminalis</i>	Rhamnaceae	Supplejack	
<i>Verbena gaudichaudii</i>	Verbenaceae	Native verbena	
<i>Vigna vexillata var angustifolia</i>	Fabaceae	Wild cowpea	
<i>Vittadinia pustulata</i>	Asteraceae	Rough fuzzweed	
<i>Vittadinia sulcata</i>	Asteraceae	Native daisy	
<i>Wahlenbergia gracilis</i>	Campanulaceae	Sprawling bluebell	
<i>Waltheria indica</i>	Byttneriaceae	Sleepy morning	
<i>Walwhalleya proluta</i>	Poaceae	Rigid panic	
<i>Wikstroemia indica</i>	Thymelaeaceae	Tie bush	
<i>Zornia dyctiocarpa var. filifolia</i>	Fabaceae		

Appendix G: Introduced plants recorded from the Study area

Table G1 Pest plant species recorded from the Study area

Scientific name	Common name	Qld Bio Act *	National status^
<i>Abutilon guineense</i>			
<i>Acanthospermum hispidum</i>	Star burr		
<i>Alternanthera pungens</i>	Khaki weed		
<i>Amaranthus viridis</i>	Green amaranth		
<i>Argemone ochroleuca</i>	Mexican poppy		
<i>Bidens pilosa</i>	Cobblers pegs		
<i>Bothriochloa pertusa</i>	Indian couch		
<i>Cenchrus ciliaris</i>	Buffel grass		
<i>Chloris gayana</i>	Rhodes grass		
<i>Chloris inflata</i>	Purple top chloris		
<i>Clitoria ternatea</i>	Butterfly pea		
<i>Cynodon dactylon</i>	Couch grass		
<i>Digitaria eriantha</i>	Pangola grass		
<i>Echinochloa colona</i>	Awnless barnyard grass		
<i>Emilia sonchifolia</i>	Lilac tasselflower		
<i>Erigeron bonariensis</i>	Flax leafed fleabane		
<i>Gomphocarpus physocarpus</i>	Balloon cottonbush		
<i>Gomphrena celosioides</i>	Gomphrena weed		
<i>Harrisia martinii</i>	Harrisia	3	
<i>Heliotropium indicum</i>	Indian heliotrope		
<i>Jatropha gossypifolia</i>	Bellyache bush	3	WONS
<i>Lantana camara</i>	Lantana	3	WONS
<i>Lantana montevidensis</i>	Creeping lantana	3	WONS
<i>Leucas lavandulifolia</i>			
<i>Macroptilium atropurpureum</i>	Siratro		
<i>Macroptilium lathyroides</i>	Phasey bean		
<i>Malvastrum americanum</i> var. <i>americanum</i>	Malvastrum		
<i>Malvastrum coromandelianum</i>	Prickly malvastrum		
<i>Megathyrsus maximus</i>	Green panic		
<i>Melinis repens</i>	Red natal grass		
<i>Melochia pyramidata</i>	Pyramidflower		
<i>Opuntia tomentosa</i>	Velvety tree pear	3	WONS
<i>Parkinsonia aculeata</i>	Parkinsonia	3	WONS
<i>Parthenium hysterophorus</i>	Parthenium	3	WONS
<i>Passiflora foetida</i>	Stinking passionfruit		
<i>Portulaca oleracea</i>	Red pigweed		
<i>Richardia brasiliensis</i>	White eyes		
<i>Ricinus communis</i>	Castor oil bush		
<i>Scoparia dulcis</i>			
<i>Senna occidentalis</i>	Coffee senna		
<i>Sida cordifolia</i>	Flannel bush		
<i>Sida coromandelianum</i>	Spiky sida		
<i>Sida rhombifolia</i>	Paddy's lucerne		
<i>Sida spinosa</i>	Spiny sida		
<i>Solanum seaforthianum</i>	Brazilian nightshade		
<i>Sonchus oleraceus</i>	Milk thistle		

Scientific name	Common name	Qld Bio Act *	National status^
<i>Stachytarpheta cayennensis</i>	Dark blue snakeweed		
<i>Stylosanthes hamata</i>	Caribbean stylo		
<i>Stylosanthes scabra</i>	Shrubby stylo		
<i>Trianthema portulacastrum</i>	Black pig weed		
<i>Tridax procumbens</i>	Coat buttons		
<i>Urena lobata</i>	Caesarweed		
<i>Urochloa mosambicensis</i>	Sabi grass		
<i>Vachellia farnesiana</i>	Mimosa		
<i>Verbesina encelioides</i>	Grey crownbeard		
<i>Xanthium orientalis</i>	Noogoora burr		

Notes:

* Restricted species under the *Queensland Biosecurity Act 2014* (Qld Bio Act);

^ Species listed as Weed of National Significance