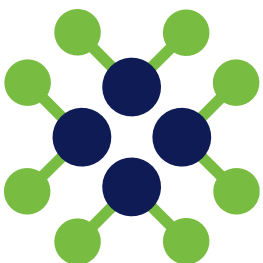




ATLAS-CAMPASPE MINERAL SANDS PROJECT  
MODIFICATION 6  
**APPENDIX B**  
**SUPPLEMENTARY OFFSET AREA ASSESSMENT**





# **Atlas-Campaspe Mineral Sands Project**

## **Supplementary offset area assessment**

Tronox Mining Australia Ltd

11 February 2026

→ **The Power of Commitment**



<b>Project name</b>		Atlas-Campaspe Mineral Sands Project					
<b>Document title</b>		Atlas-Campaspe Mineral Sands Project   Supplementary offset area assessment					
<b>Project number</b>		12628564					
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# Glossary of terms and acronyms

Term	Definition
Accredited assessor	An individual trained and accredited under Section 6.10 of the BC Act to apply the Biodiversity Assessment Method.
AMBS	Australian Museum business services
BAM	Biodiversity Assessment Method The rules for biodiversity assessment established under the BC Act that determine credits created, credits required and the circumstances that improve or maintain biodiversity values.
BAM-C	Biodiversity Assessment Method Calculator
BC Act	NSW Biodiversity Conservation Act 2016
BC Regulation	NSW Biodiversity Conservation Regulation 2017
BCS	Biodiversity, Conservation and Science Group (now CPHR)
BCT	Biodiversity Conservation Trust
BDAR	Biodiversity Development Assessment Report
Biodiversity credit	A unit of biodiversity value to measure specific development impacts or conservation gains in accordance with the BAM. Includes ecosystem credits and species credits.
Biodiversity credit report	Specifies the number and type of biodiversity credits: required to offset the impacts of a development to obtain a Biodiversity Certification Agreement; or that would be generated through conservation and management of a Stewardship site under a Biodiversity Stewardship site agreement.
Biodiversity offsets	Specific measures that are put in place to compensate for impacts on biodiversity values.
Biodiversity values	The composition, structure, and function of ecosystems, including threatened species, populations and ecological communities, and their habitats.
BMP	Biodiversity Management Plan
BOS	Biodiversity Offset Scheme
BSS	Biodiversity Stewardship Site
CPHR	Conservation Programs, Heritage and Regulation Group (formerly BCS) within NSW DCCEEW
Commonwealth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DAWE	Commonwealth Department of Agriculture, Water and Environment (now DCCEEW)
DBH	Diameter at breast height (1.3 m above ground)
Development footprint	The area that would be directly impacted by construction and operation of the Optimised Services Corridor. Encompasses the layout shown on Figure 1-1. This area also comprises the 'Subject Land' as referenced in the BAM.
DECC	Department of Conservation and Climate Change
DoEE	Department of the Environment and Energy
DotE	Department of the Environment
DPE	NSW Department of Planning and Environment
DPI	NSW Department of Primary Industries
DPIE	NSW Department of Planning, Industry and Environment (now DPE)
Ecosystem credit	A credit that relates to a vegetation type and the threatened species that are reliably predicted by that vegetation type (as a habitat surrogate).
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
GHD	GHD Pty Ltd

Term	Definition
GIS	Geographic Information System
GPS	Global positioning system
ha	hectares
HTE	High threat exotic plant
IBRA	Interim Biogeographic Regionalisation for Australia
km	kilometre
LGA	Local Government Area
Migratory species	Species listed under listed under international agreements i.e. Ramsar, JAMBA, CAMBA, Bonn and ROKAMBA conventions to which Australia is a party
MNES	Matters of National Environmental Significance
NSW	New South Wales
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
PCT	Plant community type
Priority weeds	Plants that have the potential to pose a biosecurity risk to human health, the economy, the liveability of a community and the environment, listed under the NSW <i>Biosecurity Act 2015</i>
SAII	Serious and irreversible impact
SAII entity	Species and ecological communities that are at risk of serious and irreversible impacts (SAIIs)
Species credit	A credit that relates to an individual threatened species that cannot be reliably predicted based on habitat surrogates. Threatened species that require species credits are identified in the Threatened Biodiversity Data Collection
Study area	The area that was subject to a site survey and assessed for direct or indirect impacts arising from construction and operation of the Optimised Services Corridor. A buffer of 1,500 metres has been used in desktop assessments in accordance with the BAM.
SVTM	State Vegetation Type Map
TBDC	Threatened Biodiversity Data Collection
TEC	Threatened ecological community
The Modification	Refers to the Modification of Development Consent (SSD_5012) under section 4.55(2) of the EP&A Act to allow for the changes identified during detailed planning for the development of the Campaspe deposit at the Atlas-Campaspe Mine. These changes being the construction and operation of the Optimised Services Corridor
The Project	the Atlas-Campaspe Mineral Sands Project
Threatened biota	Threatened species, populations or ecological communities listed under the BC Act, FM Act and/or the EPBC Act.
Tronox	Tronox Mining Australia Limited
VI	vegetation integrity

# 1. Introduction

## 1.1 Overview

Tronox Mining Australia Limited (Tronox) is the proponent of the Atlas-Campaspe Mineral Sands Project (the Project) which includes the development of a mineral sands mining operation (the Atlas-Campaspe Mine), together with the construction and operation of the Ivanhoe Rail Facility (a rail outload facility), in western New South Wales (NSW) (Figure 1-1).

Development Consent (SSD\_5012) was granted for the Project, under Part 4 of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act) in 2014.

EPBC Approval 2012/6447 was also granted for the Project under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in 2014.

In accordance with the conditions of the NSW Development Consent and Commonwealth EPBC Approval, a 16,540 hectare (ha) biodiversity offset site was established to compensate for the impacts to biodiversity including the removal of threatened species and their habitat.

Tronox is proposing to modify Development Consent (SSD\_5012) under section 4.55(2) of the EP&A Act to allow for proposed changes to the Atlas-Campaspe Mine component of the Project. The changes would include the construction of an optimised services corridor alignment between the Atlas and Campaspe deposits to improve operational efficiency of the Project (the Modification) (Figure 1-1).

The Modification would result in additional clearing of native vegetation within the optimised services corridor alignment. The construction of this corridor would result in impacts to 50.41 ha of native vegetation that is located within the existing Project biodiversity offset area (referred to herein as the existing offset area).

Potential biodiversity impacts associated with the Modification have been assessed through a Biodiversity Development Assessment Report (BDAR).

To compensate for the impact to the existing offset area, Tronox proposed a supplementary biodiversity offset area with equivalent biodiversity values to be incorporated into the existing offset area.

Tronox has identified an area covering approximately 667 ha with equivalent vegetation types to those within the proposed services corridor development footprint. A portion of this area (64.8 ha) is proposed to be incorporated into the existing project boundary offset area to compensate for the impact from the Modification on the existing offset area, with the remainder proposed to be protected under a Biodiversity Stewardship Site Agreement and used to offset the biodiversity impacts of the Modification. GHD Pty Ltd (GHD) has completed an assessment of the proposed supplementary offset area to determine its suitability to act as a supplementary offset. The results of the assessment are presented in this report.

## 1.2 Purpose and scope

The purpose of this report is to:

- Summarise the biodiversity values within the proposed supplementary offset area
- Describe the Plant Community Types (PCTs) present within the proposed supplementary offset area
- Use the Biodiversity Assessment Method (BAM) to assess the general condition of the vegetation within the proposed supplementary offset area and provide a comparison with the vegetation proposed to be impacted within the existing offset site as a result of the construction of the proposed services corridor
- Assess the suitability of habitat within the supplementary offset area for threatened species recorded or identified as having potential to occur within the proposed services corridor alignment
- Discuss the suitability of the site to act as a supplementary offset area

## **1.3 Scope and limitations**

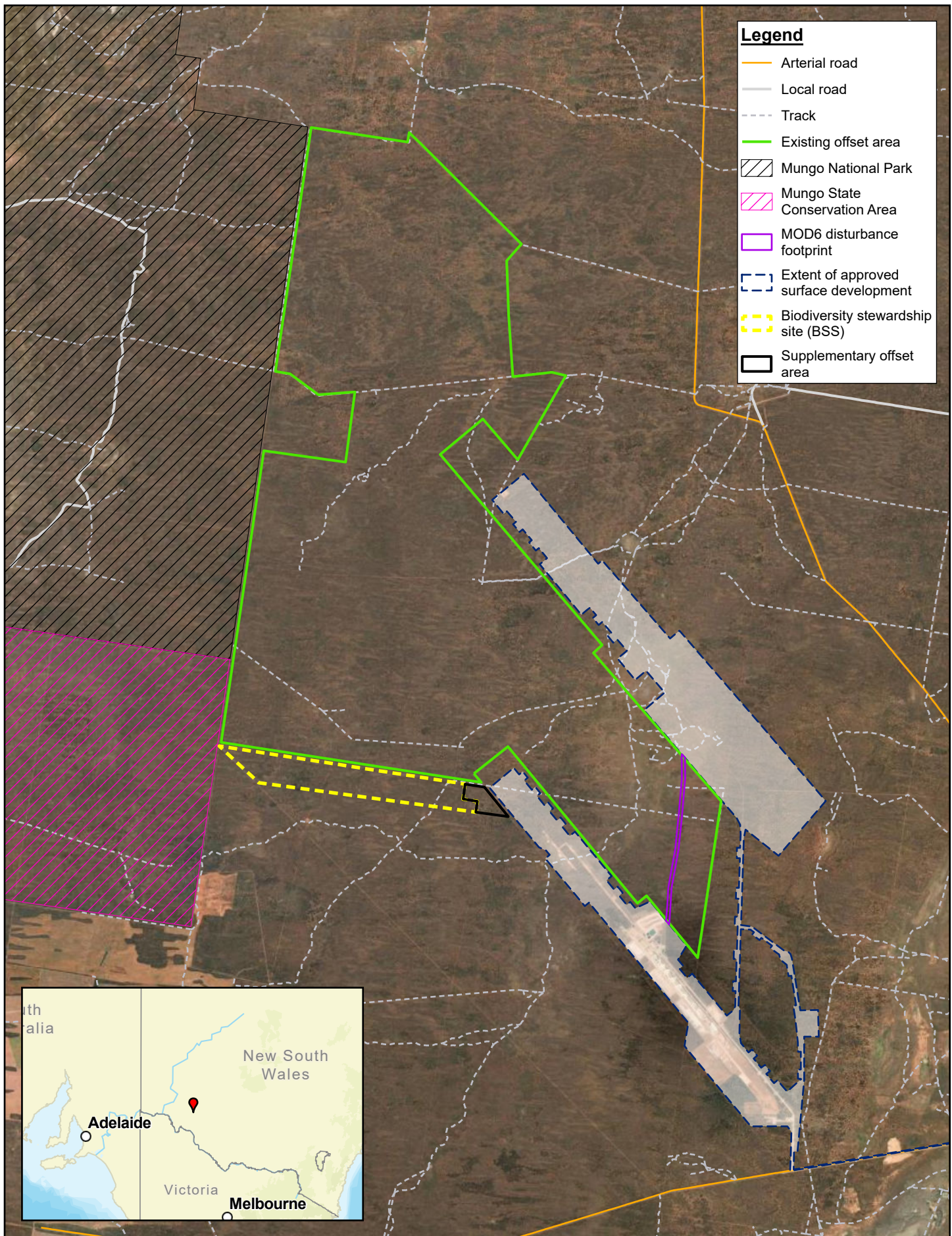
This report has been prepared by GHD for Tronox Mining Australia Ltd and may only be used and relied on by Tronox Mining Australia Ltd for the purpose agreed between GHD and Tronox Mining Australia Ltd as set out in section 1 of this report.

GHD otherwise disclaims responsibility to any person other than Tronox Mining Australia Ltd arising in connection with this report. GHD also excludes implied warranties and conditions to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

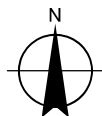
The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 1.2 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.



- Legend**
- Arterial road
  - Local road
  - - - Track
  - Existing offset area
  - ▨ Mungo National Park
  - ▨ Mungo State Conservation Area
  - ▭ MOD6 disturbance footprint
  - ▭ Extent of approved surface development
  - ▭ Biodiversity stewardship site (BSS)
  - ▭ Supplementary offset area



Paper Size ISO A4  
 0 1,000 2,000 3,000 4,000  
 Meters  
 Map Projection: Transverse Mercator  
 Horizontal Datum: GDA 1994  
 Grid: GDA 1994 MGA Zone 54



**Tronox Mining Australia Ltd.**  
**Tronox Ecological Work**

Project No. **12628564**  
 Revision No. **B**  
 Date **11/02/2026**

**Site map**

**FIGURE 1-1**

## 2. Methods

### 2.1 Study area

The study area for this assessment includes the development footprint of the proposed modification (referred to as the MOD 6 development footprint) and the proposed supplementary offset area. The MOD 6 development footprint comprises approximately 50.53 ha of land located within the existing offset for the Atlas Campaspe mine, while the supplementary offset area includes 64.8 ha of land located adjacent to the existing offset area within Lot 1 DP1198290 (refer to Figure 1-1).

### 2.2 Definitions

For the purposes of the assessment the following definitions have been used:

- **The Project** - the Atlas-Campaspe Mineral Sands Project as approved under the Development Consent (SSD\_5012)
- **the Modification** - the proposed construction and operation of an optimised services corridor at the Atlas.Campaspe Mine site
- **MOD 6 development footprint** – the area that would be directly impacted by the proposed optimised services corridor proposed through the modification
- **supplementary offset area** – the 64.8 ha of land which is proposed to act as a supplementary offset
- **existing offset area** – the 16,540 ha of land that was established as a biodiversity offset site to offset the impacts of the Project
- **study area** – includes the MOD 6 development footprint and supplementary offset area
- **locality** – the area within a 10 kilometre (km) radius of the study area

### 2.3 Desktop Assessment

#### 2.3.1 Data review

A desktop database review was undertaken to identify threatened flora and fauna species, populations and ecological communities (threatened biota) listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and EPBC Act, that could be expected to occur in the study area based on previous records, known distribution ranges, and habitats present. The desktop assessment was also used help identify PCTs present, determine landscape characteristics and to obtain the necessary site data to perform calculations using the NSW Biodiversity Assessment Method Calculator (BAM-C).

Information sources used in the preparation of this report include:

- NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) BioNet Atlas (NSW DCCEEW 2024a), for
  - Records of threatened biota previously recorded in a 10 km radius around the study area
  - Threatened Biodiversity Data Collection (TBDC) profiles of threatened species listed under the BC Act
  - NSW Vegetation Classification to help confirm PCTs in the study area and PCT to threatened ecological community (TEC) associations
  - A list of candidate species credit-type species and predicted species accessed via the BAM-C
- The NSW State Vegetation Type Map (SVTM) (NSW DCCEEW 2025b) to identify candidate PCTs in the study area and to map native vegetation extent
- NSW *BioNet Vegetation Classification* (NSW DCCEEW 2025c) to help confirm PCTs in the study area and PCT to TEC associations, if relevant

- NSW Sharing and Enabling Environmental Data (SEED) database to determine mapping of Mitchell Landscapes and Interim Biogeographical Regionalisation of Australia (IBRA) regions and bioregions within the study area (NSW DCCEE 2025d)

## 2.3.2 Background research

Background research was conducted to identify:

- Landscape-scale features of the study area in accordance with Subsection 3.1.3 of the BAM (Department of Planning, Industry and Environment [DPIE] 2020a)
- Site context of the study area that includes assessing vegetation cover and patch size as required under Section 3.2 and Subsections 4.3.2 of the BAM
- The likely distribution of native vegetation and threatened ecological communities, based on previous mapping and aerial photograph interpretation, for targeted field verification as required under Section 4 of the BAM
- A list of predicted and candidate threatened species and populations of flora and fauna to assess the habitat suitability and TBDC as required under Section 5 of the BAM

The background research included analysis of the following information sources:

- NSW (Mitchell) Landscapes mapping Version 3.1 (DPIE 2016) and Descriptions for NSW (Mitchell) Landscapes Version 2 (Department of Conservation and Climate Change [DECC] 2002)
- Interim Biogeographic Regionalisation of Australia (IBRA version 7.0) mapping (Department of the Environment and Energy [DoEE] 2018)
- Aerial photograph imagery of the study area.

## 2.4 Field surveys

### 2.4.1 Vegetation and flora surveys

Field surveys were undertaken to map vegetation types and evaluate the condition of vegetation within study area. Comparative analysis of vegetation and threatened species habitat within the two sites was then undertaken to assess the equivalence between the two sites.

Vegetation mapping and detailed surveys completed within the study area are described in detail below.

#### 2.4.1.1 Vegetation mapping

The NSW SVTM (NSW DCCEE 2025a) was uploaded onto a hand-held device and ground-truthed in the field to verify community type and boundaries, floristic and structural homogeneity within patches and to update mapping as required. Vegetation mapping was undertaken via systematic walked transects across the entire study area and by walking the boundary of vegetation units. The overall condition of vegetation was assessed through general observation and comparison against the PCT condition benchmark data as well as using parameters such as species diversity, history of disturbance, and canopy health.

Native vegetation communities in the study area were assigned to the closest equivalent PCT identified in the BioNet Vegetation Classification database (NSW DCCEE 2025b). The closest equivalent PCT for each vegetation community was determined through a comparison of the floristic descriptions of PCTs in the database with the Vegetation Integrity (VI) plot data collected from the site. In addition to floristic and structural similarity, the landscape position, soil type and other diagnostic features of the vegetation communities on the sites were also compared to the descriptions in the database to determine the most suitable PCT.

The native vegetation in the study area was then stratified into vegetation zones in accordance with the BAM (DPIE 2020). A vegetation zone is defined in the BAM as a relatively homogenous area that is the same PCT and has the same broad condition state. Each vegetation zone was assigned a patch size in accordance with subsection 4.3.2 of the BAM.

### 2.4.1.2 Vegetation Integrity Survey Plots (Assessing Site Condition)

To make a comparison of vegetation quality between the MOD 6 development footprint and supplementary offset area, VI plots were sampled at random locations within each of the vegetation zones by walking a random distance into the vegetation zone and then locating the plot on a randomly generated compass bearing, this was then repeated for subsequent plots within the vegetation zone. Where possible, plots were not located near ecotones, tracks and their edges or other locally disturbed areas. The locations of the sampled VI plots are shown in Figure 3-1.

A total of 36 VI plots were surveyed across the study area, including 25 plots within the MOD 6 development footprint and 11 plots within the supplementary offset area.

Vegetation condition was determined by assessing ten attributes used to assess function, composition and structure of vegetation within a 50 metre (m) by 20 m plot in accordance with the BAM (DPIE 2020). These attributes were then assessed against benchmark values. Benchmarks are quantitative measures of the range of variability in condition in vegetation with relatively little evidence of alteration, disturbance or modification by humans since European settlement (NSW DCCEE 2019).

Attributes assessed within each plot are listed in Table 2.1. All flora species within a 20 m by 20 m quadrat nested within the 50 m by 20 m plot were identified according to the nomenclature of the Royal Botanic Gardens and Domain Trust, (RBGT), NSW Flora Online (RBGT 2025). Each species identified was allocated a growth form group<sup>1</sup> and designated as either native, exotic or high threat exotic in accordance with the lists accessed by assessors via the BAM calculator.

The overall condition of vegetation within the MOD 6 development footprint and supplementary offset area was assessed through general observation and comparison against the PCT condition benchmark data as well as using parameters such as species diversity, history of disturbance, weed invasion and canopy health.

The survey effort undertaken to address the minimum plot sampling required by the BAM is summarised in Section 2.4.2.

**Table 2.1** Site data collected within each vegetation integrity plot

Attribute	Area assessed
Native plant species richness	20 X 20 m plot
Percentage foliage cover for each species	20 X 20 m plot
Estimated number of individuals for each species	20 X 20 m plot
Number of large trees	50 X 20 m plot
Tree regeneration (presence/absence)	50 X 20 m plot
Tree stem size class	50 X 20 m plot
Total length of fallen logs	50 X 20 m plot
Litter cover	5 X 1 m plot
High threat exotic vegetation cover	50 X 20 m plot
Hollow bearing trees	50 X 20 m plot

## 2.4.2 Surveys for threatened species

### 2.4.2.1 Predicted threatened species (Ecosystem Credit Entities)

Based on the bioregional context for the assessment and the PCTs, patch size, vegetation cover and habitat resources present, the BAM-C generates a list of threatened fauna species that are predicted to potentially occur within a particular vegetation zone (that is, potential 'predicted threatened species', or potential 'ecosystem credit entities'). The potential for these predicted threatened species to occur within the study area were further refined based on the desktop assessment, habitat resources observed during field surveys, records during the surveys,

<sup>1</sup> TG – tree, SG – shrub, GG – grass/grasslike, FG – forb, EG – fern, OG – other (Table 2 of the BAM, DPIE 2020)

and the knowledge and experience of the assessor. The list of predicted threatened species that was generated for the MOD 6 development footprint and supplementary offset area were compared to assess the suitability of the supplementary offset to provide habitat for threatened species that have potential to occur within the MOD 6 development footprint.

#### **2.4.2.2 Candidate threatened species (Species Credit Entities)**

Under the BAM threatened species that cannot reliably be predicted to occur on a development site based on PCT, distribution and habitat criteria are identified by the TBDC (NSW DCCEEW 2025a) as 'species credit' entities. In some circumstances, the particular habitat components of species assessed for ecosystem credit species, such as the breeding habitat of a cave roosting bat, are also assessed for species credits.

Targeted surveys were completed within the MOD 6 development footprint for all species credit entities identified as having potential to occur within the site. These surveys included:

- Threatened flora traverses
- Habitat assessment including systematic candidate nest tree census
- Diurnal bird survey
- Fauna pitfall / funnel trapping, Elliott trapping
- Nocturnal spotlighting and call playback surveys
- Systematic nest tree census conducted twice over the entire MOD 6 development footprint

One species credit entity, the Cobar Greenhood (*Pterostylis cobarensis*) was recorded within the MOD 6 development footprint during these targeted surveys. Threatened flora traverses were completed within the supplementary offset area to determine whether the proposed supplementary offset provides habitat for Cobar Greenhood (*Pterostylis cobarensis*).

#### **2.4.2.3 Targeted surveys for EPBC listed species**

Several threatened flora and fauna species have been previously recorded within the Atlas-Campaspe Mine site. Including the EPBC Act listed Malleefowl (*Leipoa ocellata*), Corben's Long-eared Bat (*Nyctophilus corbeni*), Winged Peppercross (*Lepidium monoplocooides*) and Mossigiel Daisy (*Brachyscome papillosa*). The supplementary offset area as the existing offset was established in part to compensate for the specific impacts of the Project on these EPBC Act listed entities.

Neither Winged Peppercross or Mossigiel Daisy were recorded during flora traverses that were completed as part of the BDAR assessment that was completed for the Modification. Based on assessment of the documented habitat preferences for these species it is unlikely that either species occur within the MOD 6 development footprint.

Suitable habitat for Malleefowl and Corben's Long-eared Bat occurs within the MOD 6 development footprint. Targeted fauna and habitat suitability surveys were completed for Malleefowl and Corben's Long-eared Bat within the supplementary offset area. These surveys were completed by two experienced Senior Zoologists over three days and two nights from 27-29 October 2025. Survey effort included walking transects across the 64.8 ha proposed supplementary offset area, spaced at 50 m intervals, assessing habitat suitability for Malleefowl and Corben's Long-eared Bat, and looking for signs of Malleefowl (birds, nest mounds, footprints). Over two evenings the zoologists completed harp-trapping for bats using six traps for a total of 12 harp-trap nights, targeted in areas of suitable habitat. GHD zoologists have trapped Corben's Long-eared Bats and monitored Malleefowl across the mine area over ten years, and used this experience to choose the most suitable sites, in both mallee and Belah habitats.

## 2.5 Credit calculations

The BAM-C was used to determine predicted threatened species for the study area and evaluate vegetation condition through the calculation of VI scores for each of the vegetation zones that occur within the MOD 6 development footprint and supplementary offset area.

To help demonstrate the equivalence between the MOD 6 development area and supplementary offset area the BAM-C was also used to compare the number of species and ecosystem credits required to offset impacts of the MOD 6 development to those that would be required to be retired if the supplementary offset area was cleared.

BAM credit calculations were completed by Arien Quin (accredited assessor number BAAS17098) in accordance with the BAM and using the credit calculator version 1.5 and version 1.2 'average rainfall year' benchmark data.

The credit calculations case ID for the MOD 6 development footprint is 00051304/BAAS17098/24/00051305 Revision 1 and the case ID for the supplementary offset area is 00063807/BSSA17098/26/00063815/ Revision 0

BAM predicted species reports and credit summary reports for the MOD 6 development footprint and supplementary offset area are included in Appendix B.

## 3. Results

The following section describes the results of the desktop assessment, field surveys and BAM calculations.

### 3.1 Site context

#### 3.1.1 Assessment area

Landscape features within the MOD 6 development footprint and supplementary offset area are commensurate between the two sites. Both areas occur within the South Olary Plain bioregion of the Murray Darling Depression IBRA region and are located predominantly within the Mungo-Marona Sandplains Mitchell landscape. Native vegetation extent is slightly greater within the supplementary offset assessment area when compared to the MOD 6 development footprint.

A summary of the assessment area and landscape features within the study area is provided in Table 3.1 below.

*Table 3.1 Summary of landscape features within the MOD 6 development footprint and supplementary offset areas.*

Landscape features	MOD 6 development footprint	Supplementary offset area
Method applied for site context components	Site-based	Site-based
IBRA bioregion (DoEE 2018a)	Murray Darling Depression	Murray Darling Depression
IBRA subregion (DoEE 2018a)	South Olary Plain	South Olary Plain
Local Government Area (LGA)	Balranald Shire Council	Balranald Shire Council
Mitchell landscape (DPE 2016)	Mungo-Marona Linear Dunes and Mungo-Marona Sandplains (for the purpose of the BAM-C calculations Mungo Marona Sandplains was entered as this is the dominant Mitchell landscape within the MOD 6 development footprint)	Mungo-Marona Linear Dunes and Mungo-Marona Sandplains (for the purpose of the BAM-C calculations Mungo Marona Sandplains was entered as this is the dominant Mitchell landscape within the MOD 6 development footprint)
% native vegetation extent within buffer area	78	99

Landscape features	MOD 6 development footprint	Supplementary offset area
Rivers, streams and estuaries	None	None
Wetlands	None	None
Connectivity features	The proposed MOD 6 development footprint is located within the existing offset site, although it falls between two areas that have been approved for development (refer to Figure 1.1). The area is connected to extensive areas of similar semi-arid woodland habitat to the west of the site including vegetation that extends into the Mungo National Park. All vegetation zones have a patch size of >101 ha.	Habitat within the supplementary offset area is connected to extensive areas of similar semi-arid woodland habitat in the surrounding locality. Including adjoining vegetation which forms part of the existing offset for the Atlas-Campaspe Mineral Sands Project. This vegetation is also contiguous with a large contiguous tract of vegetation that extends to the west into the Mungo National Park. All vegetation zones have a patch size of >101 ha.
Areas of geological significance	The MOD 6 development footprint does not contain any areas of geological significance	The supplementary offset area does not contain any areas of geological significance
Areas of outstanding biodiversity value (AOBV)	There are no areas identified under the BC Act as being of outstanding biodiversity value within the MOD 6 development footprint or in the surrounding area.	There are no areas identified under the BC Act as being of outstanding biodiversity value within the supplementary offset area or in the surrounding area.
Other landscape features	Nil	Nil

## 3.2 Plant community types

### 3.2.1 Overview

Field surveys confirmed the occurrence of PCTs 170, 171, 143 and 58 within both the MOD 6 development footprint and supplementary offset area.

A summary of the extent of each of these PCTs within the study area is provided in Table 3.2 and mapped on Figure 3-1 and Figure 3-2. Detailed descriptions of each PCT within the MOD 6 development footprint and supplementary offset area are provided in Section 3.2.3 below.

Table 3.2 Plant community types in the study area

PCT Number	Vegetation Zone/PCT Name	Extent in MOD 6 development footprint (ha)	Extent in supplementary offset area (ha)
171	Zone 1 -Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion_intact	4.42	4.55
170	Zone 2 - Chenopod Sandplain Mallee woodland/shrubland of the arid and semi-arid (warm) zone_intact	16.26	19.79
143	Zone 3- Narrow-leaved Hoppbush – Scrub Turpentine- Senna shrubland on semi-arid and arid sandplains and dunes_intact	5.54	6.05
58	Zone 4 -Black-Oak -Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion_intact	14.42	34.40
58	Zone 4 -Black-Oak -Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion_disturbed	4.42	0

PCT Number	Vegetation Zone/PCT Name	Extent in MOD 6 development footprint (ha)	Extent in supplementary offset area (ha)
58	Zone 4 -Black-Oak -Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion-cleared	5.35	0
N/A	Disturbed / exotic vegetation	0.12	0
<b>TOTAL</b>		<b>50.53</b>	<b>64.79</b>

### 3.2.2 Vegetation Integrity (vegetation condition)

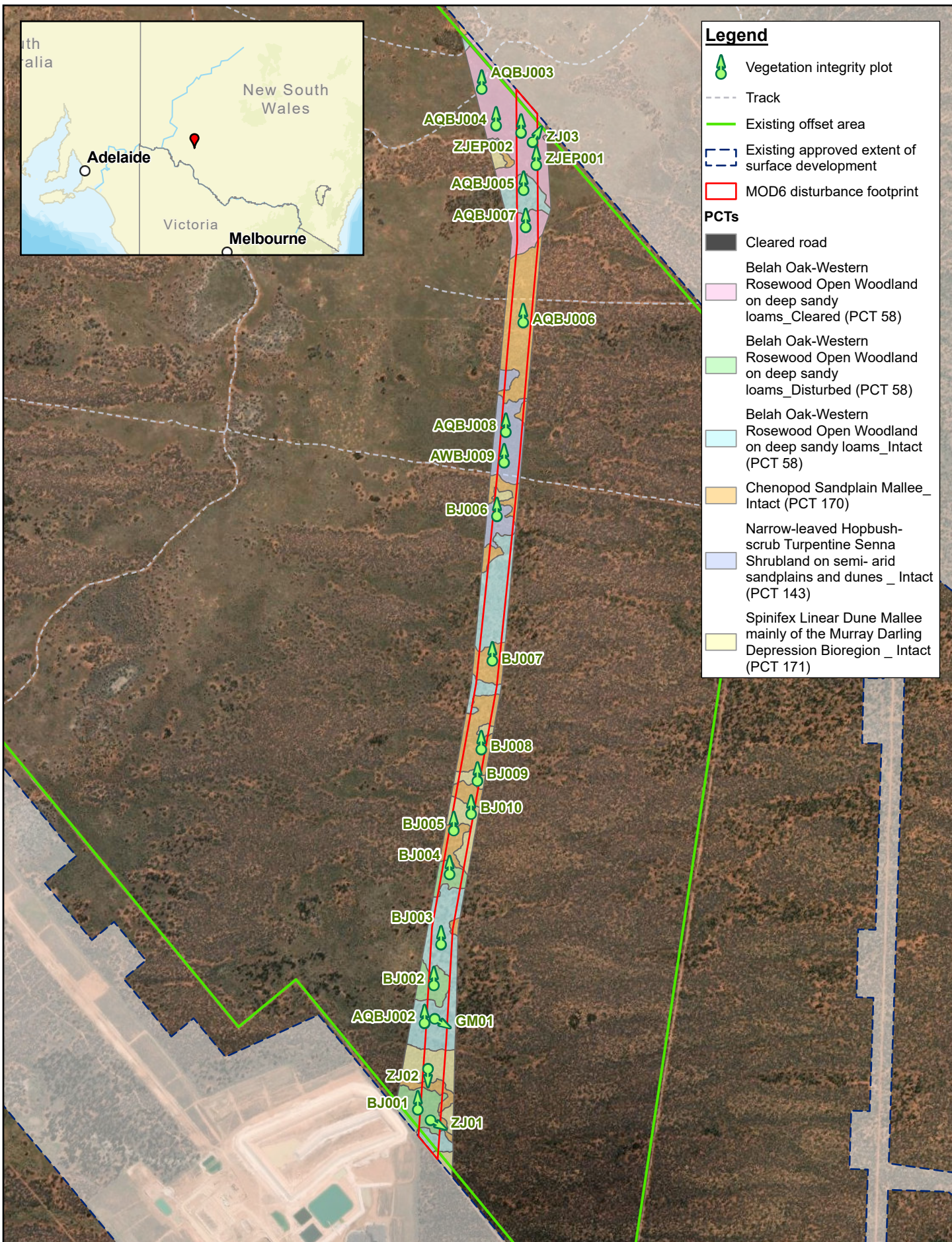
VI scores calculated for the vegetation zones in the MOD 6 development footprint and supplementary offset areas are presented in Table 3.3 and Table 3.4 below.

*Table 3.3 Vegetation integrity scores – MOD 6 development footprint*

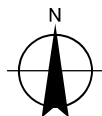
Zone ID	Vegetation zone	Area (ha)	Composition condition score	Structure condition score	Function condition score	VI score	Hollow bearing trees present
1	171_Intact	4.42	98.9	54.2	37.5	58.6	Yes
2	170_Intact	16.26	92.4	29.6	44.3	49.5	Yes
3	143_Intact	5.54	85.7	93.8	N/A	89.7	No
4	58_Intact	14.42	95.1	41.2	85.4	65.6	Yes
5	58_disturbed	4.42	78.6	29.1	7	47.1	Yes
6	58_cleared	5.35	76.3	9.9	17.4	27.7	No

*Table 3.4 Vegetation integrity scores – Supplementary offset area*

Zone ID	Vegetation zone	Area (ha)	Composition condition score	Structure condition score	Function condition score	VI score	Hollow bearing trees present
1	171_Intact	4.55	100	65.8	42.5	65.4	Yes
2	170_Intact	19.79	69.3	32.2	42.5	45.6	Yes
3	143_Intact	6.05	84	85.1	N/A	87.3	No
4	58_Intact	34.4	88.2	28	68.1	55.2	Yes



Paper Size ISO A4  
 0 160 320 480 640  
 Meters  
 Map Projection: Transverse Mercator  
 Horizontal Datum: GDA 1994  
 Grid: GDA 1994 MGA Zone 54



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**Vegetation mapping  
 development footprint**

**FIGURE 3-1**

\\ghdnet\ghd\AU\Midura\Projects\3112628564\GIS\Maps\Working\12628564\_figures\_Replacement\_offset\12628564\_figures\Replacem... GHD, 2025; Replacement offset boundary, Tronox 2025; World Street Map; Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community  
 World Imagery: Vantor. Created by: tmorton

© 2026. Whilst every care has been taken to prepare this map, GHD (and DATA CUSTODIAN) make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

**Legend**

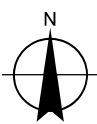
- Vegetation integrity plot
- Track
- Existing offset area
- Supplementary offset area
- Existing approved extent of surface development

**PCTs**

- Belah Oak-Western Rosewood Open Woodland on deep sandy loams\_Intact (PCT 58)
- Chenopod Sandplain Mallee\_Intact (PCT 170)
- Narrow-leaved Hopbush-scrub Turpentine Senna Shrubland on semi-arid sandplains and dunes\_Intact (PCT 143)
- Spinifex Linear Dune Mallee mainly of the Murray Darling Depression Bioregion\_Intact (PCT 171)



Paper Size ISO A4  
 0 100 200 300 400  
 Meters  
 Map Projection: Transverse Mercator  
 Horizontal Datum: GDA 1994  
 Grid: GDA 1994 MGA Zone 54



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 Date 11/02/2026

**Vegetation mapping replacement offset area**



**FIGURE 3-2**

\\ghdnet\ghd\AU\Midura\Projects\3112628564\GIS\Maps\Working\12628564\_figures\_Replacement\_offset\12628564\_figures\Replacem... GHD, 2025; Replacement offset boundary, Tronox 2025; World Street Map; Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community  
 World Imagery: Vantor. Created by: tmorton  
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### 3.2.3 Plant Community Type descriptions

Table 3.5 to Table 3.8 provide a description of the PCTs recorded within the MOD 6 development footprint and supplementary offset area.



Table 3.5 PCT 171- *Spinifex linear dune mallee mainly of the Murray darling Depression Bioregion*

<b>Zone 1 – PCT 171- Spinifex linear dune mallee mainly of the Murray darling Depression Bioregion</b>	
PCT (NSW DCCEE 2025b)	Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
PCT ID	171
Photos	 <p>Photo 1 - example of PCT 171 within MOD 6 development footprint</p>  <p>Photo 2 – example of PCT 171 within supplementary offset area</p>
Survey effort MOD 6 development footprint	Three plots - ZJ02, BJ009, BJ010 (plus one plot AQB001 within study area adjacent to development footprint)
Survey effort supplementary offset area	Two plots - TFBSS10, TFBSS09
Conservation significance	Native vegetation, not a TEC
Patch size	>101 ha

**Zone 1 – PCT 171- Spinifex linear dune mallee mainly of the Murray darling Depression Bioregion**

Condition MOD 6 development footprint	<p>Intact</p> <ul style="list-style-type: none"> <li>– Overall, tree, shrub, forb and grass composition met or was above the benchmark</li> <li>– Tree composition was slightly below the benchmark</li> <li>– Shrub, grass and forb cover was highly variable but overall above benchmark</li> <li>– Tree cover was slightly below benchmark</li> <li>– Length of fallen logs were significantly below benchmark</li> <li>– Leaf litter cover was slightly below benchmark</li> <li>– No high threat exotic plants (HTE) cover was recorded in plots</li> <li>– Hollow-bearing trees were recorded</li> </ul> <p>Tree stem classes between 0 to 20 centimetre (cm) present</p>
Condition supplementary offset area	<p>Intact</p> <ul style="list-style-type: none"> <li>– Tree, shrub, grass and forb composition at or above benchmark</li> <li>– Tree and shrub cover below benchmark</li> <li>– Grass cover above benchmark</li> <li>– Length of fallen logs below benchmark</li> <li>– Leaf litter cover slightly below benchmark</li> <li>– No HTE cover was recorded in plots</li> <li>– No hollow-bearing tree recorded in plots however observed elsewhere within the vegetation zone</li> <li>– No large trees recorded</li> <li>– Tree stem classes between 0 to 20 cm present</li> </ul>
Current VI score Mod 6 development footprint	58.6
Current VI score Supplementary offset area	65.4
Landscape position	Occurs on east-west sand dunes
Structure	Open woodland up to 5 m tall dominated by Mallee eucalyptus with a sparse shrub layer and understorey of mainly spinifex, chenopod shrubs, perennial grasses and annual herbs.
Over-storey	Dominated by a mix of Ridge-fruited Mallee ( <i>Eucalyptus costata</i> subsp. <i>murrayana</i> ), Red Mallee ( <i>Eucalyptus socialis</i> ) and White Mallee ( <i>Eucalyptus dumosa</i> ).
Mid-storey	Sparse mid-storey with approximately 20 percent cover. Common species include Narrow-leaf Hop-bush ( <i>Dodonaea viscosa</i> subsp. <i>angustissima</i> ), Tar Bush ( <i>Eremophila glabra</i> ), Sugarwood ( <i>Myoporum platycarpum</i> ), Spike Wattle ( <i>Acacia oxycedrus</i> ), Spinebush ( <i>Acacia colletioides</i> ) and <i>Senna artemisioides</i> subsp. <i>zygophylla</i> .
Groundcover	<p>Dominated by Spinifex (<i>Triodia scariosa</i>) and chenopod shrubs. Common species include:</p> <p>Shrubs: Grey Copperburr (<i>Sclerolaena diacantha</i>), Rough Halgania (<i>Halgania cyanea</i>), Slit-wing Bluebush (<i>Maireana georgei</i>), <i>Sclerolaena parviflora</i>, <i>Maireana pentatropis</i>, <i>Maireana trichoptera</i>, <i>Maireana appressa</i>, Ruby Saltbush (<i>Enchylaena tomentosa</i>), Desert Goosefoot. (<i>Chenopodium desertorum</i> subsp. <i>desertorum</i>) and <i>Olearia pimeleoides</i>.</p> <p>Forbs: <i>Vittadinia dissecta</i> var <i>hirta</i>, Tall Mulla Mulla (<i>Ptilotus exaltatus</i> var. <i>exaltatus</i>) and Mallee Fringe Lily (<i>Thysanotus baueri</i>).</p> <p>Grasses and sedges: Spinifex (<i>Triodia scariosa</i>), Speargrass (<i>Austrostipa</i> spp), Panic (<i>Panicum</i> spp), <i>Paspalidium</i> spp, Woolly Matt-rush (<i>Lomandra leucocephala</i>) and Desert Bog-rush (<i>Schoenus subaphyllus</i>).</p>
Exotic species	None recorded



Table 3.6 PCT 170- Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones

Zone 2 – PCT 170- Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones	
PCT (NSW DCCEE 2025b)	Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
PCT ID	170
Photos	 <p>Photo 3 – example of PCT 170 within MOD 6 development footprint</p>  <p>Photo 3 – example of PCT 170 within supplementary offset area</p>
Survey effort MOD 6 development footprint	Four plots - BJ005, AQB006, BJ008, BJ007
Survey effort Supplementary offset area	Three plots - TFBSS08, TFOR17, TFOR15
Conservation significance	Native vegetation, not a TEC
Patch size	>101 ha
Condition MOD 6 development footprint	Intact <ul style="list-style-type: none"> <li>– Overall, shrub, forb and fern composition met or was above the benchmark</li> <li>– Tree composition was slightly below the benchmark</li> <li>– Shrub cover was substantially below benchmark</li> </ul>

**Zone 2 – PCT 170- Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones**

	<ul style="list-style-type: none"> <li>– Grass and forb cover close to benchmark</li> <li>– Tree cover was below benchmark</li> <li>– Length of fallen logs was slightly below benchmark</li> <li>– Leaf litter cover was at benchmark</li> <li>– No HTE cover was recorded in plots</li> <li>– Hollow-bearing trees were recorded</li> </ul> <p>Tree stem classes between 0-20 cm present</p>
Condition supplementary offset area	<p>Intact</p> <ul style="list-style-type: none"> <li>– Overall, tree and grass composition close to benchmark</li> <li>– Shrub composition above the benchmark</li> <li>– Forb cover below benchmark</li> <li>– Tree and shrub cover below benchmark</li> <li>– Grass and cover close to benchmark</li> <li>– Length of fallen logs below benchmark</li> <li>– Leaf litter cover was close to benchmark</li> <li>– No HTE cover was recorded in plots</li> <li>– Hollow-bearing trees were recorded</li> <li>– Tree stem classes between 0-30 cm present</li> </ul>
Current VI score MOD 6 development footprint	49.5
Current VI score supplementary offset area	45.6
Landscape position	Occurs on sand plains and interdune swales
Structure	Tall woodland up to 8 m, with occasional taller <i>Acacia</i> spp. and <i>Senna</i> spp. over a sparse, patchy understorey dominated by low chenopod shrubs, perennial grasses and annual herbs.
Over-storey	Dominated by a mix of White Mallee ( <i>Eucalyptus dumosa</i> ), Ridge-fruited Mallee ( <i>Eucalyptus costata</i> subsp. <i>murrayana</i> ) and Snap and Rattle ( <i>Eucalyptus gracilis</i> ).
Mid-storey	Sparse shrub layer with occasional Turpentine Bush ( <i>Eremophila sturtii</i> ), Narrow-leaved Hopbush ( <i>Dodonaea viscosa</i> subsp. <i>angustissima</i> ), Sugarwood ( <i>Myoporum platycarpum</i> ), Pimelea Daisy-bush ( <i>Olearia pimeleoides</i> ), <i>Senna artemisioides</i> subsp. <i>x zygophylla</i> and <i>Senna artemisioides</i> subsp. <i>x coriacea</i>
Groundcover	<p>Dominated by chenopod shrubs and perennial grasses. Characteristic species include:</p> <p>Shrubs: <i>Maireana pentatropis</i>, <i>Maireana triptera</i>, <i>Maireana trichoptera</i>, <i>Maireana appressa</i>, Slit-wing Bush (<i>Maireana georgei</i>), Grey Copperburr (<i>Sclerolaena diacantha</i>), <i>Sclerolaena parviflora</i>, Rough Halgania (<i>Halgania cyanea</i>), Desert Goosefoot (<i>Chenopodium desertorum</i> subsp. <i>desertorum</i>), Berry Saltbush (<i>Rhagodia spinescens</i>) and Mallee Saltbush (<i>Atriplex stipitata</i>).</p> <p>Forbs: <i>Vittadinia cervicalis</i>, Invisible Plant (<i>Podolepis capillaris</i>), Veined peppercress (<i>Lepidium phlebopetalum</i>), Mallee Fringe Lily (<i>Thysanotus baueri</i>), <i>Stenopetalum sphaerocarpum</i> and Twinleaf (<i>Roepera</i> spp).</p> <p>Grasses: Spear Grass (<i>Austrostipa</i> spp), Scented Mat-rush (<i>Lomandra effusa</i>), <i>Paspalidium</i> spp and <i>Austrostipa nitida</i>.</p>
Exotic species	Burr Medic ( <i>Medicago polymorpha</i> ) recorded in low densities throughout vegetation zone



Table 3.7 PCT 143 Narrow-leaved Hopbush – Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes

Vegetation Zone 3 – PCT 143 Narrow-leaved Hopbush – Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes	
PCT (NSW DCCEE 2025b)	Narrow-leaved Hopbush – Scrub Turpentine- Senna shrubland on semi-arid and arid sandplains and dunes
PCT ID	143
Photo	 <p>Photo 5 – Example of PCT 143 within MOD 6 development Footprint</p>  <p>Photos 6 – Example of PCT 143 within replacment offset area</p>
Survey effort MOD 6 development footprint	Three plots - BJ006, AQB009, AQB008
Survey effort supplementary offset area	Three plots - TFOR19, TFOR20, TFBSS11
Conservation significance	Native vegetation, not a TEC
Patch size	>101 ha

**Vegetation Zone 3 – PCT 143 Narrow-leaved Hopbush – Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes**

Condition MOD 6 development footprint	<p>Intact</p> <ul style="list-style-type: none"> <li>– Overall, shrub, grass and forb composition close to benchmark</li> <li>– Tree composition was slightly below the benchmark</li> <li>– Tree shrub, grass and forb cover close to benchmark</li> <li>– Length of fallen logs was slightly below benchmark</li> <li>– One HTE species (<i>Carrichtera annua</i>) recorded in plots</li> </ul>
Condition Supplementary offset area	<p>Intact</p> <ul style="list-style-type: none"> <li>– Overall, tree, shrub, grass and forb composition close to benchmark</li> <li>– Tree shrub, grass and forb cover close to or above benchmark</li> <li>– Length of fallen logs was slightly below benchmark</li> <li>– Leaf litter cover close to benchmark</li> <li>– No HTE species were recorded in plots</li> </ul>
Current VI score MOD 6 development footprint	89.7
Current VI score supplementary offset area	87.3
Landscape position	Occurs on previously disturbed dunes
Structure	Tall open shrubland up to 3 m
Over-storey	Absent
Mid-storey	Dominated by Narrow-leaved Hopbush ( <i>Dodonaea viscosa</i> subsp. <i>angustissima</i> ) and Turpentine Bush ( <i>Eremophila sturtii</i> ). Other common species include Dune Wattle ( <i>Acacia ligulata</i> ), <i>Exocarpos aphyllus</i> , Woody Cassia ( <i>Senna artemisioides</i> subsp. <i>x petiolaris</i> ), <i>Senna artemisioides</i> subsp. <i>x zygotphylla</i> and Leafless Ballart ( <i>Exocarpos aphyllus</i> ).
Groundcover	<p>Sparse layer of chenopod shrubs with scattered forbs and perennial grasses. Common species include:</p> <p>Shrubs: <i>Maireana sclerolaenoides</i>, <i>Maireana trichoptera</i>, Three-winged Bluebush (<i>Maireana triptera</i>), Berry Saltbush (<i>Rhagodia spinescens</i>), Grey Copperburr (<i>Sclerolaena diacantha</i>), Desert Broombush (<i>Templetonia egena</i>), Saltbush (<i>Enchylaena tomentosa</i>), Grey Copperburr (<i>Sclerolaena diacantha</i>), Ruby Saltbush (<i>Enchylaena tomentosa</i>), <i>Maireana appressa</i>, Three-wing Bush (<i>Maireana triptera</i>), <i>Olearia pimeleoides</i>, <i>Sclerolaena obliquicuspis</i> and Kidney Saltbush (<i>Atriplex stipitata</i>).</p> <p>Forbs: Variable daisy (<i>Brachyscome ciliaris</i>), Hard-headed Daisy (<i>Brachyscome lineariloba</i>), Orange Immortelle (<i>Waitzia acuminata</i>), <i>Goodenia</i> spp, Native Leek (<i>Bulbine semibarbata</i>), Variable Sida (<i>Sida corrugata</i>), Slit-wing Bush (<i>Maireana georgei</i>), <i>Convolvulus remotus</i>, Flannel Cudweed (<i>Actinobole uliginosum</i>), <i>Vittadinia cervicalis</i>, New Holland Daisy (<i>Vittadinia</i> spp.), Oxalis (<i>Oxalis perennans</i>), Climbing Saltbush (<i>Einadia nutans</i> subsp. <i>nutans</i>), <i>Harmsiodoxa brevipes</i> and Veined Peppergrass (<i>Lepidium phlebopetalum</i>).</p> <p>Grasses: Speargrass (<i>Austrostipa</i> spp.), <i>Austrostipa nitida</i>, Straw Wallaby-grass (<i>Rytidosperma richardsonii</i>) and Knobbybutt Grass (<i>Paspalidium constrictum</i>)</p>
Exotic species	Low cover of exotic species within this PCT. Exotic species observed include, Burr Medic ( <i>Medicago polymorpha</i> ), Woolly Burr Medic ( <i>Medicago minima</i> ), Flax-leaf Alyssum ( <i>Alyssum linifolium</i> ), Vervain ( <i>Salvia verbenaca</i> ), <i>Rorippa</i> spp, <i>Carrichtera annua</i> (HTE) and Palestine Marigold ( <i>Calendula palaestina</i> ).

**Table 3.8** *PCT 58 - Black-Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion*

<b>Vegetation Zone 4– PCT 58 - Black-Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion</b>	
PCT (NSW DCCEEW 2025b)	Black-Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
PCT ID	58
Photo	 <p>Photo 7 – Example of PCT 58_intact within the MOD 6 development footprint</p>  <p>Photo 8 – Example of PCT 58_disturbed within the MOD 6 development footprint</p>

**Vegetation Zone 4– PCT 58 - Black-Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion**



Photo 9 – Example of PCT 58\_cleared within the MOD 6 development footprint



Photo 10 – Example of PCT 58\_intact within the replacement offset area

Survey effort MOD 6 development footprint	Three plots - AQB005, BJ003, GM01 (plus one plot AQB002 adjacent to development footprint)
Survey effort supplementary offset area	Three plots – TFBSS06, TFBSS07, TFBSS05, AQTF01
Conservation significance	Native vegetation, not a TEC
Patch size	>101 ha

**Vegetation Zone 4– PCT 58 - Black-Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion**

<p>Condition MOD 6 development footprint</p>	<p><u>Intact</u>  This vegetation zone comprises relatively intact woodland, with an undisturbed canopy, shrub and groundlayer</p> <ul style="list-style-type: none"> <li>– Overall, shrub, forb and grass composition met or was above the benchmark</li> <li>– Tree composition was slightly below the benchmark</li> <li>– Shrub cover was substantially below benchmark</li> <li>– Grass and forb cover close to benchmark</li> <li>– Tree cover was slightly below benchmark</li> <li>– Length of fallen logs was slightly above benchmark</li> <li>– Leaf litter cover slightly above benchmark</li> <li>– No HTE cover was recorded in plots</li> <li>– Hollow-bearing trees were recorded</li> <li>– Tree stem classes between 0-30 cm present</li> </ul> <p><u>Moderate</u>  This vegetation zone within the development footprint has a disturbed canopy in poor health and an understorey with lower species richness and structural diversity when compared to areas mapped as intact PCT 58.</p> <ul style="list-style-type: none"> <li>– Overall, shrub, forb and fern composition was slightly below the benchmark</li> <li>– Tree composition was below the benchmark</li> <li>– Tree and shrub cover was substantially below benchmark</li> <li>– Grass and forb cover close to benchmark</li> <li>– Number of large trees was below benchmark</li> <li>– Length of fallen logs was substantially below benchmark</li> <li>– Leaf litter cover was below benchmark</li> <li>– No HTE cover was recorded in plots</li> <li>– No hollow-bearing trees were recorded</li> <li>– Tree stem classes between 10-20 cm, 30-40 cm and 50-80 cm present</li> </ul> <p><u>Cleared</u>  This vegetation zone has been previously cleared and lacks a canopy. It typically comprises a sparse shrub layer over a diverse ground layer.</p> <ul style="list-style-type: none"> <li>– Overall, shrub, forb and fern composition was below the benchmark</li> <li>– Trees and logs absent</li> <li>– Shrub cover was substantially below benchmark</li> <li>– Grass and forb cover close to benchmark</li> <li>– Length of fallen logs was substantially below benchmark</li> <li>– Leaf litter cover was below benchmark</li> <li>– One HTE recorded in plots</li> <li>– No tree stem size classes present</li> </ul>
<p>Condition supplementary offset area</p>	<p><u>Intact</u></p> <ul style="list-style-type: none"> <li>– Overall, tree, shrub and forb composition at or above benchmark</li> <li>– Grass composition slightly below the benchmark</li> <li>– Tree, shrub and grass cover below benchmark</li> <li>– Forb cover close to benchmark</li> <li>– Length of fallen logs near benchmark</li> <li>– Leaf litter cover at benchmark</li> <li>– No HTE recorded in plots</li> <li>– Hollow-bearing trees were recorded</li> <li>– All five stem tree stem classes between present</li> </ul>

**Vegetation Zone 4– PCT 58 - Black-Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion**

Current VI score development footprint	For intact PCT 58 VI = 69.4 (14.42 ha) For disturbed PCT 58 VI = 25.2 (4.42 ha) For cleared PCT 58 VI = 23.6 (5.35 ha)
Current VI score supplementary offset area	55.2
Landscape position	Occurs on calcareous soils on plains
Structure	Low open woodland to 20 m tall
Over-storey	Canopy dominated by Belah ( <i>Casuarina pauper</i> ) and Western Rosewood ( <i>Alectryon oleifolius</i> subsp. <i>oleifolius</i> ) with occasional Sugarwood ( <i>Myoporum platycarpum</i> subsp. <i>platycarpum</i> ).
Mid-storey	Sparse shrub layer with occasional Tar Bush ( <i>Eremophila glabra</i> ), Turpentine Bush ( <i>Eremophila sturtii</i> ), Pimelea Daisy-bush ( <i>Olearia pimeleoides</i> ), Narrow-leaved Hopbush ( <i>Dodonaea viscosa</i> subsp. <i>angustissima</i> ), Silver Cassia ( <i>Senna artemisioides</i> X <i>artemisioides</i> ) and Yarran ( <i>Acacia homalophylla</i> ).
Groundcover	Dominated by chenopod shrubs with scattered perennial grasses. Common species include:  Shrubs: Three-wing Bush ( <i>Maireana triptera</i> ), <i>Maireana sclerolaenoides</i> , Grey Copperburr ( <i>Sclerolaena diacantha</i> ), <i>Sclerolaena obliquicuspis</i> , Cannonball Burr ( <i>Dissocarpus paradoxus</i> ), Ruby Saltbush ( <i>Enchylaena tomentosa</i> ), Kidney Saltbush ( <i>Atriplex stipitata</i> ), Berry Saltbush ( <i>Rhagodia spinescens</i> ), <i>Maireana appressa</i> , Desert Goosefoot ( <i>Chenopodium desertorum</i> subsp. <i>desertorum</i> ), Climbing Saltbush ( <i>Einadia nutans</i> subsp. <i>nutans</i> ), Slit-wing Bush ( <i>Maireana georgei</i> ), Black Bluebush ( <i>Maireana pyramidata</i> ) and Downy Bluebush ( <i>Maireana trichoptera</i> )  Forbs: New Holland Daisy ( <i>Vittadinia</i> spp), Twinleaf ( <i>Zygophyllum</i> spp), <i>Lepidium leptopetalum</i> , Native Leek ( <i>Bulbine semibarbata</i> ), Flannel Cudweed ( <i>Actinobole uliginosum</i> ), Common White Sunray ( <i>Rhodanthe floribunda</i> ), Variable Daisy ( <i>Brachyscome ciliaris</i> ), Smooth Heliotrope ( <i>Heliotropium curassavicum</i> ), <i>Goodenia</i> spp., <i>Convolvulus remotus</i> , Pin Sida ( <i>Sisa fibulifera</i> ), <i>Minuria cunninghamii</i> Hard-headed Daisy ( <i>Brachyscome lineariloba</i> ) and <i>Rorippa</i> spp.  Grasses: <i>Austrostipa nitida</i> , Speargrass ( <i>Austrostipa</i> spp.), <i>Paspalidium constrictum</i> . and <i>Rytidosperma</i> spp.
Exotic species	Exotic species recorded in the Development footprint include Woolly Burr Medic ( <i>Medicago minima</i> ), Burr Medic ( <i>Medicago polymorpha</i> ), Mallee Catchfly ( <i>Silene apetala</i> ), Common Sowthistle ( <i>Sonchus oleraceus</i> ), <i>Arabidella nasturtium</i> , Wards Weed ( <i>Carrichtera annua</i> ) and Flax-leaf Alyssum ( <i>Alyssum linifolium</i> ).

### 3.2.4 Species and ecosystem credits associated with the supplementary offset area

Table 3.9 and Table 3.10 summarise the results of the BAM-C credit calculations undertaken to determine the number of ecosystem and species credits associated with the offset area if the area was to be cleared.

Table 3.9 Ecosystem credits associated with the supplementary offset area

PCT ID	PCT Name	Credits required if supplementary offset area was cleared
58	Black-Oak -Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion.	831
143	Narrow-leaved Hopbush – Scrub Turpentine- Senna shrubland on semi-arid and arid sandplains and dunes	198
170	Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones	451
171	Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion	112

**Table 3.10** Species credits associated with the supplementary offset area

<b>Common name</b>	<b>Scientific name</b>	<b>BC Act status</b>	<b>EPBC Act status</b>	<b>Number of species credits required if supplementary offset area was cleared</b>
Cobar Greenhood	<i>Pterostylis cobarensis</i>	V	Not listed	600

## 4. Threatened species and communities

### 4.1 Mallee Bird Ecological Community of the Murray Darling Depression Bioregion

The Mallee Bird Ecological Community of the Murray Darling Depression Bioregion (the Mallee Bird Community) is listed as a TEC under the EPBC Act. The community comprises an assemblage of 20 bird species that rely on mallee habitats to varying degrees for their continued persistence within the Murray Darling Depression bioregion, with some species considered *mallee specialists*; bird species found almost exclusively in mallee habitats, especially within the Murray Darling Depression bioregion, and which the loss of suitable mallee habitats can potentially lead to their extinction at a local or regional scale (DAWE 2021a). *Mallee dependent* species are a suite of bird species dependent on mallee where it is present, but have a wider range extending into non-mallee woodland and shrubland habitats, and loss of suitable mallee habitats for these species may not lead to extinction but result in substantial declines in abundance in the Murray Darling Depression, as well as loss of ecological diversity (DAWE 2021a).

Surveys undertaken across the broader Atlas-Campaspe Mine over several years, including targeted fauna surveys within the supplementary offset area, have recorded at two of the eight mallee specialist species (Chestnut Quail-thrush [*Cinclosoma castanotum*] and Malleefowl [*Leipoa ocellata*] in the broader area), and at least seven of the 12 mallee dependent bird species within or surrounding the supplementary offset area. These findings are considered sufficient to consider the Mallee Bird Community as being present at this site, and of condition category A – high number of Mallee Bird Community species as defined in the approved conservation advice (DAWE 2021a).

The Mallee Bird Ecological Community TEC is associated with the 19.79 ha of PCT 170 and 171 and 4.55 ha of PCT 171 that occurs within the supplementary offset area.

### 4.2 Ecosystem credit species predicted to occur within the supplementary offset areas

Based on the bioregional context for the assessment and the PCTs, patch size, vegetation cover and habitat resources present, the BAM-C generates a list of threatened fauna species that are predicted to utilise the site (that is, potential 'predicted threatened species', or potential 'ecosystem credit entities'). The potential for these predicted threatened species to occur within the study area was further refined based on the desktop assessment, habitat resources observed during field surveys, records during the surveys, and the knowledge and experience of the assessor. Targeted surveys are not required under the BAM for these species as they are assumed to be present based on the presence of suitable habitat.

The suite of 'confirmed' threatened species that have potential to occur within the proposed supplementary offset areas and the MOD 6 development footprint are listed in Table 4.1.

As shown in Table 4.1 all ecosystem species that the BAM-C predicted to occur within MOD 6 development footprint. All predicted species are also predicted to occur within the supplementary offset area.

#### 4.2.1 EPBC Act listed fauna

There is suitable foraging and breeding habitat within the supplementary offset area for the following EPBC Act listed fauna species:

- Malleefowl (*Leipoa ocellata*)
- Pink Cockatoo (*Lophochroa leadbeateri*)
- Hooded Robin (South-eastern) (*Melanodryas cucullata cucullata*)
- Corben's Long-eared Bat (*Nyctophilus corbeni*)

– Southern Whiteface (*Aphelocephala leucopsis*)

Corben's Long-eared Bat were detected in the proposed supplementary offset area during the targeted survey; with one individual trapped in Vegetation Zone 4 - PCT 58 - Black-Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion. No signs of Malleefowl (birds, nesting mounds or footprints) were detected during the targeted survey of the proposed supplementary offset area, though there is suitable habitat within the site as well as numerous previous records of this species in the areas surrounding the supplementary area, including an historic nest mound, 3.2 km to the north. Although not recorded during surveys completed within the supplementary offset area in October 2025. The Hooded Robin, Southern Whiteface and Pink Cockatoo have all been recorded in similar habitats adjacent to the supplementary offset area, they have therefore been assumed to be present.

Suitability of the proposed offset supplementary area as habitat for these EPBC Act listed threatened species is discussed in further detail in section 5.1.1 below.

## 4.2.2 EPBC Act listed flora

No EPBC Act listed flora species were recorded during flora traverses completed within either the MOD 6 development area or supplementary offset area. Two EPBC listed species, Winged Peppergrass (*Lepidium monoplocoides*) and Mossgiel Daisy (*Brachyscome papillose*) have been previously recorded within the Project area during surveys completed for the Project EIS in 2014. Neither the MOD 6 development footprint or the supplementary offset area contain habitat for either of these species.

Table 4.1 Predicted (ecosystem credit) species for the development footprint and supplementary offset area

Scientific name	Common name	BC Act status	EPBC Act status	MOD 6 development footprint	Supplementary offset area	Associated PCT/s	Sensitivity to gain class
<i>Antechinomys laniger</i>	Kultarr	E	-	Yes	Yes	171 170 143 58	High
<i>Aphelocephala leucopsis</i>	Southern Whiteface	-	V	Yes	Yes	171 170 143 58	N/A
<i>Aprasia inaurita</i>	Mallee Worm-lizard	E	-	Yes	Yes	171 170	Moderate
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	-	Yes	Yes	171 170 143 58	Moderate
<i>Cercartetus concinnus</i>	Western Pygmy Possum	V	-	Yes	Yes	171 170 58	High
<i>Certhionyx variegatus</i>	Pied Honeyeater	V	-	Yes	Yes	171 170 143 58	High
<i>Chalinolobus picatus</i>	Little Pied Bat	V	-	Yes	Yes	171 170 143 58	High
<i>Cinclosoma castanotum</i>	Chestnut Quail-thrush	V	-	Yes	Yes	170	High
<i>Circus assimilis</i>	Spotted Harrier	V	-	Yes	Yes	171 170 143 58	Moderate
<i>Ctenotus brooksi</i>	Wedgesnout Ctenotus	V	-	Yes	Yes	171 143	High
<i>Cyclodomorphus melanops elongatus</i>	Mallee Slender Blue-tongue Lizard	E	-	Yes	Yes	171	High
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	Yes	Yes	171 170 58	High
<i>Delma australis</i>	Marble-faced Delma	E	-	Yes	Yes	171 170	Moderate
<i>Falco hypoleucos</i>	Grey Falcon	E	-	Yes	Yes	171 170 143 58	Moderate
<i>Falco subniger</i>	Black Falcon	V	-	Yes	Yes	171	Moderate

Scientific name	Common name	BC Act status	EPBC Act status	MOD 6 development footprint	Supplementary offset area	Associated PCT/s	Sensitivity to gain class
						170 143 58	
<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet	V	-	Yes	Yes	171 170	High
<i>Grantiella picta</i>	Painted Honeyeater	V	V	No – excluded as mistletoes are not present at a density greater than five per hectare	No – excluded as mistletoes are not present at a density greater than five per hectare	N/A	N/A
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V	M	Yes	Yes	N/A	High
<i>Hamirostra melanosternon</i>	Black-breasted Buzzard	V	-	Yes	Yes	171 170 143 58	Moderate
<i>Hieraaetus morphnoides (foraging)</i>	Little Eagle	V	-	Yes	Yes	171 170 143 58	Moderate
<i>Hylacola cautus</i>	Shy Heathwren	V	-	Yes	Yes	170	High
<i>Leipoa ocellata</i>	Malleefowl	E	V	Yes	Yes	171 170	High
<i>Lerista xanthura</i>	Yellow-tailed Plain Slider	V		Yes	Yes	171 170 143 58	High
<i>Lichenostomus cratitius</i>	Purple-gaped Honeyeater			Yes	Yes	171 170	Moderate
<i>Lophochroa leadbeateri (foraging)</i>	Pink Cockatoo	V	E	Yes	Yes	171 170 143 58	Moderate
<i>Lophoicinia isura (foraging)</i>	Squared-tailed Kite	V	-	Yes	Yes	58	Moderate
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (south-eastern form)	E	E	Yes	Yes	171 170 143 58	Moderate
<i>Neophema chrysostoma</i>	Blue-winged Parrot	V	V	Yes	Yes	171 170	Low
<i>Neophema splendida</i>	Scarlet-chested Parrot	V	-	Yes	Yes	171 170	High

Scientific name	Common name	BC Act status	EPBC Act status	MOD 6 development footprint	Supplementary offset area	Associated PCT/s	Sensitivity to gain class
<i>Ningauivyonneae</i>	Southern Ningauivyonneae	V	-	Yes	Yes	170	High
<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat	V	V	Yes	Yes	170 58	High
<i>Pachycephala inornata</i>	Gilbert's Whistler	V	-	Yes	Yes	170 58	Moderate
<i>Polytelis anthopeplus monarchoides (foraging)</i>	Regent Parrot (eastern subspecies)	E	V	No – excluded due to geographic limitation (development footprint is not within 30 km of the Murray or Murrumbidgee rivers)	No – excluded due to geographic limitation (study area is not within 30 km of the Murray or Murrumbidgee rivers)	N/A	Moderate
<i>Pomotostomus temporalis temporalis</i>	Grey-crowned Babbler	V	-	Yes	Yes	143 58	Moderate
<i>Pseudomys bolami</i>	Bolam's Mouse	E	-	Yes	Yes	171 171 58	High
<i>Pseudomys hermannsburgensis</i>	Sandy Inland Mouse	V	-	Yes	Yes	171 143 58	High
<i>Pseudonaja modesta</i>	Ringed Brown Snake	E	-	Yes	Yes	171 170 143 58	Moderate
<i>Ramphotyphlops endoterus</i>	Interior Blind Snake	E	-	Yes	Yes	143	Moderate
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V	-	Yes	Yes	170 143 58	High
<i>Sminthopsis macroura</i>	Stripe-faced Dunnart	V	-	Yes	Yes	171 170 58	High
<i>Stagonopleura guttata</i>	Diamond Firetail	V	-	Yes	Yes	170 58	Moderate
<i>Strophurus elderi</i>	Jewelled Gecko	V	-	Yes	Yes	171 170	High
<i>Tiliqua occipitalis</i>	Western, Blue-tongued Lizard	V	-	Yes	Yes	171 170	High
<i>Vespadelus baverstocki</i>	Inland Forest Bat	V	-	Yes	Yes	171 170 143 58	High

## 5. Comparison between supplementary offset area and development footprint

### 5.1 PCTs and vegetation integrity

The proposed supplementary offset area supports all four PCTs that occur within the MOD 6 development footprint. These PCTs are in broadly similar condition across the two sites, other than PCT 58 which in addition to occurring as an intact vegetation zone within the MOD 6 development footprint also occurs as a disturbed and cleared form of the community.

A comparison of PCTs and VI scores within the supplementary offset area and MOD 6 development footprint are provided in Table 5.1

Slight differences in the VI scores recorded within PCTs occurring within the MOD 6 development footprint and the supplementary offset area may be attributed to conditions at the time of survey (i.e surveys were completed in early April following a prolonged dry period within the supplementary offset areas which may have resulted in reduced VI scores when compared to the surveys that were completed in Spring (October) across the MOD 6 development footprint).

*Table 5.1 Comparison between VI scores recorded within supplementary offset areas and MOD 6 development footprint.*

PCT ID	PCT Name	VI score MOD 6 development footprint	VI score supplementary offset area
171	Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion_intact	58.6	65.4
170	Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones_intact	49.5	45.6
143	Narrow-leaved Hopbush – Scrub Turpentine- Senna shrubland on semi-arid and arid sandplains and dunes_intact	89.7	87.3
58	Black-Oak -Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion_intact	69.4	55.2
58	Black-Oak -Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion_disturbed	25.2	N/A – All areas of PCT 58 within the supplementary offset area are in intact condition
58	Black-Oak -Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion_cleared	23.6	N/A – All areas of PCT 58 within the supplementary offset area are in intact condition

#### 5.1.1 Credit calculation comparison

To demonstrate the equivalence between the MOD 6 development area and proposed supplementary offset area the BAM-C was used to determine the number of species and ecosystem credits required to offset impacts of the MOD 6 development. A BAM-C scenario was then run to determine the number of credits that would be required to be retired if the supplementary offset area was cleared. The credit comparison shows that credits that would be required if the supplementary offset area was cleared are greater than those required at the MOD 6 development for all PCTs and threatened species credit species impacted.

The results of the credit comparison are provided in Table 5.2 and Table 5.3.

Table 5.2 Comparison between ecosystem credits required for MOD 6 development footprint and supplementary offset area

PCT ID	PCT Name	Credits required at MOD 6 development	Credits required if supplementary offset area was cleared
58	Black-Oak -Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion.	542	831
143	Narrow-leaved Hopbush – Scrub Turpentine- Senna shrubland on semi-arid and arid sandplains and dunes	186	198
170	Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones	402	451
171	Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion	97	112

Table 5.3 Comparison between species credits required for MOD 6 development footprint and supplementary offset area

Common name	Scientific name	BC Act status	EPBC Act status	Number of species credits required for MOD 6 development	Number of species credits required if supplementary offset area was cleared
Cobar Greenhood	<i>Pterostylis cobarensis</i>	V	Not listed	531	600

## 5.2 Threatened biota

The supplementary offset area contain habitats for all predicted threatened species (ecosystem species) that have potential to occur within the MOD 6 development footprint (refer to Section 4.1). The supplementary offset also provides potential habitat for the species credit species, *Pterostylis cobarensis* (Cobar Greenhood) which was recorded within the optimised service corridor as well as nearby to the supplementary offset within an area that is proposed for a biodiversity stewardship site (BSS) that would be used to offset the impacts of the Modification.

The existing offset area provides an offset for several species listed as threatened under the EPBC Act that were recorded within the Atlas-Campaspe project area during surveys completed for the Project Environment Impact Assessment (EIS) (Australian Museum Business Services [AMBS] 2013). The EPBC approval for the Project determined that offsets were required due to the potential for a significant impact to:

- Malleefowl (*Leipoa ocellata*)
- Pink Cockatoo (*Lophochroa leadbeateri*)
- Hooded Robin (South-eastern) (*Melanodryas cucullata cucullata*)
- Corben's Long-eared Bat (*Nyctophilus corbeni*)
- Southern Whiteface (*Aphelocephala leucopsis*)
- Winged Peppercress (*Lepidium monoplocoides*)
- Mossgiel Daisy (*Brachyscome papillosa*)

The suitability of the proposed supplementary offset area has been assessed for these species and a summary is provided below.

### Malleefowl

The Malleefowl is listed as endangered under the BC Act and vulnerable under the EPBC Act. The species is a large, distinctive, ground-dwelling bird, notable for the large nesting mound in which its eggs are incubated by the composting of vegetation. The stronghold for this species in NSW is the mallee in the south west centred on Mallee Cliffs NP and extending east to near Balranald and scattered records as far north as Mungo NP (NSW DCCEE 2025e). Malleefowl predominantly inhabit mallee communities, preferring tall, dense and floristically-rich

mallee, but will also utilise mallee with a spinifex understorey, though usually at lower densities, preferring areas of light sandy to sandy loam soils and habitats with a dense but discontinuous canopy and dense and diverse shrub and herb layers.

No signs of Malleefowl (birds, nesting mounds or footprints) were detected during surveys within the MOD 6 development footprint or the proposed supplementary offset area, though there are previous records of this species around the supplementary area, including an historic nest mound, 3.2 km due north of the supplementary area. Mallee habitats within the proposed supplementary offset area were identified as highly suitable for this species, with light sandy to sandy loam soils supporting floristically diverse mallee with a good shrub layer and areas of spinifex. While flora surveys indicated leaf litter cover was around or slightly below benchmark for the mallee areas, it was considered adequate to support Malleefowl nesting. The location of the supplementary offset area adjacent to the large existing offset area and close to Mungo National Park, within a very large and contiguous area of remnant mallee and Belah woodland is ideal for continuing to support this species.

Overall, the mallee habitats within the supplementary offset area are considered as suitable habitat for the Malleefowl, and superior to the MOD 6 development footprint due to its better-quality mallee habitats and greater connectivity to remnant native vegetation, including that within the existing offset and Mungo National Park.

## **Pink Cockatoo**

The Pink Cockatoo is listed as Vulnerable under the BC Act and Endangered under the EPBC Act. The species is a mid-sized bird with distinctive salmon pink colouration on the feathers on either side of the head, that grades into white colouring on the lower belly and wings. Pink Cockatoo's have a long, forward-pointing crest atop the head that, when raised and spread shows broad red and yellow bands through the centre. They weigh approximately 365-480g with a body length of around 39cm (NSW DCCEEW 2025e). This species is found across arid inland Australia and is distributed throughout most of South-Australia from South-Western Queensland to North-West Victoria (NSW DCCEEW 2025e). They are found in a variety of inland habitats, granted they have easy access to a water source, such as nearby farm dams present in neighbouring properties. They nest in tree hollows during the second half of the year and can usually be found in pairs or small groups. Pink Cockatoo's forage on the ground for seeds of native and exotic species such as melons, saltbush, wattles and cypress pines (NSW DCCEEW 2025e).

No signs of Pink Cockatoo's (birds or nesting) were detected during surveys within the proposed supplementary offset area or adjacent MOD 6 stewardship site, although they have been recorded previously in surveys within the mine tenement, including flying over the north of the MOD 6 development footprint. Vegetation Zones 1, 2 and 4 (spinifex mallee, chenopod sandplain mallee and Belah-Rosewood woodland) are considered highly suitable habitat for the species as foraging, roosting and potentially breeding habits. Hollows of a range of sizes within the proposed stewardship site and supplementary offset area offer good roosting and potential breeding habitat. The moderate to high quality understorey supports seed diversity facilitating foraging opportunities for the species, leaving a high likelihood of occasional foraging visits by Pink Cockatoos.

Overall, most of the supplementary offset area and adjacent stewardship site is considered suitable habitat for the Pink Cockatoo and is superior to the MOD 6 development footprint due to its better-quality spinifex and chenopod sandplain mallee, and Belah-Rosewood woodland habitats, including potential nesting hollows, providing greater connectivity to remnant native vegetation, including that within the existing offset area and Mungo National Park.

## **Hooded Robin (South-eastern)**

The Hooded Robin is listed as Endangered under the BC and EPBC Acts. The species is sexually dimorphic: Males have a distinct black head, back and tail as well as a white breast, shoulder and wing-bars. Females and juveniles have light brown to grey colouration on the body with the same striking white and black wings. Both males and females can reach up to 17cm in length (NSW DCCEEW 2025e). The South-Eastern Hooded Robin can be found in many habitats, though rarely along coastlines or in arid deserts, instead, preferring lightly wooded country. They are distributed from Brisbane, throughout the majority of NSW, up to Adelaide (NSW DCCEEW 2025e). Whilst they can be found in many different habitats, highly diverse areas containing both mature trees and saplings with clearings within eucalypt woodland, acacia scrub and mallee are considered the ideal habitat for this species. They prefer nesting in bushes, bark, grasses, dead stumps, fallen-timber or low-hanging branches 1m to 5m above ground - utilising the space to jump down and hunt insect prey (NSW DCCEEW 2025e).

No signs of Hooded Robin (birds, nests or footprints) were detected during surveys within the proposed supplementary offset area or the adjacent MOD 6 stewardship site, though there have been previous records of this species from across much of the Atlas-Campaspe mine tenement. Most of the supplementary offset area, including Vegetation Zones 1 through 4 of spinifex mallee, senna shrubland, chenopod sandplain mallee and Belah Rosewood woodland all contain suitable habitat for this species for foraging, roosting and potentially breeding. The mallee and Belah woodland within the proposed supplementary offset area comprise open, semi-arid woodlands suitable for foraging, with tree stumps and foliage. The moderate to high quality understorey vegetation likely supports invertebrate prey for the Hooded Robin.

The majority of the supplementary offset area contains suitable habitat for the Hooded Robin that can be considered more suitable than the MOD 6 development footprint due to the high connectivity of remnant native vegetation and more mature, higher-quality spinifex, chenopod sandplain mallee and Belah-Rosewood woodland habitats.

## **Southern Whiteface**

The Southern Whiteface is considered Vulnerable under both the BC and EPBC Acts. They are a relatively small, bird with a grey-brown-coloured back and wings, black tail with a white end, and a white belly and band along the face. Adults reach an approximate length of 11.5cm (DCCEEW 2023). The Southern Whiteface has a large distribution across Australia, coinciding with the Murray Darling Basin and much of the surrounding area within NSW (NSW DCCEEW 2025e). This species inhabits wide, open woodland and shrubland that contain good quality grassy or shrubby understorey including mallee and box eucalypt dominant communities. They nest in low bushes, hollows and crevices low to the ground, hunting insects, spiders and feeding on seeds from bare ground or within leaf litter (DCCEEW 2023).

This species was recorded within the MOD 6 development footprint, with a pair observed foraging in chenopods in open woodland and has been frequently observed throughout the mine tenement and broader landscape. The MOD 6 development footprint is considered to represent a small proportion of foraging habitat for the Southern Whiteface within a much larger area of surrounding, suitable habitat. This species was not recorded within the proposed supplementary offset area or neighbouring stewardship site, though vegetation Zones 1, 2 and 4 within the supplementary offset area are suitable habitat for this species for foraging, roosting and potentially breeding. The loose bark in these Vegetation Zones and the hollows of a variety of sizes and complexity may also be utilised by breeding individuals. The moderate to high quality midstorey and understorey vegetation likely supports invertebrate prey for avian hunters, including the Southern Whiteface.

In short, the supplementary offset area is considered suitable, viable habitat for the Southern Whiteface and can be considered superior to the MOD 6 development footprint due to higher quality spinifex and chenopod sandplain mallee, and providing greater connectivity to surrounding remnant native vegetation, including that within the existing offset area and Mungo National Park.

## **Corben's Long-eared Bat**

The Corben's Long-eared Bat is listed as vulnerable under the BC and EPBC Acts. The species is a relatively large, uniformly dark grey-brown microbat, with a low ridge of skin running between the eyes and across the nose, a head and body length of 5 - 7 cm and weighing about 14 grams (NSW DCCEEW 2025e). Corben's Long-eared Bat have a distribution of coinciding approximately with the Murray Darling Basin, with the Pilliga Scrub region being the distinct stronghold for this species (NSW DCCEEW 2025e). This species inhabits a variety of vegetation types, including mallee, Buloke and box eucalypt dominated communities, but is more common in box/ironbark/cypress-pine vegetation along the western slopes and plains of NSW and southern Queensland. It roosts in tree hollows, crevices, and under loose bark, and utilises the understorey to hunt non-flying prey - especially caterpillars and beetles - and will even hunt on the ground (NSW DCCEEW 2025e).

Corben's Long-eared Bat were detected in the proposed supplementary offset area during the targeted survey; with one individual trapped in Vegetation Zone 4 - PCT 58 - Black-Oak - Western Rosewood. Most of the supplementary offset area, including Vegetation Zones 1, 2 and 4 of spinifex mallee, chenopod sandplain mallee and Belah-Rosewood woodland all contain suitable habitat for this species for foraging, roosting and potentially breeding. The mallee and Belah woodland within the proposed supplementary offset area comprise open, semi-arid woodlands suitable for foraging, and trees contain hollows and crevices of a range of sizes and configurations, along with loose bark providing roosting habitat that may also be used by breeding individuals. The moderate to

high quality midstorey and understorey vegetation likely supports invertebrate prey for microbats, including Corben's Long-eared Bats. As for Malleefowl, the location of the supplementary offset area immediately adjacent to the large existing offset area and close to Mungo National Park, within a very large and contiguous area of remnant mallee and Belah woodland is ideal for continuing to support this species.

Overall, most of the supplementary offset area is considered as suitable habitat for the Corben's Long-eared Bat and is superior to the MOD 6 development footprint due to its better-quality spinifex and chenopod sandplain mallee, and Belah-Rosewood woodland habitats, providing greater connectivity to remnant native vegetation, including that within the existing offset area and Mungo National Park.

## Winged Peppergrass

Winged Peppergrass (*Lepidium monoplacoides*) is listed as an endangered species under the BC and EPBC Acts. The species is a widespread annual herb which occurs in the semi-arid western plains regions of NSW (NSW DCCEEW 2025a). The species has been collected from widely distributed localities however there have been very few collections of this species since 1950. Winged Peppergrass is known to occur on seasonally moist to waterlogged sites, on heavy fertile soils in areas with a mean annual rainfall of between 300 - 500 millimetres. It has been predominantly recorded in open woodland vegetation dominated by Bulloak (*Allocasuarina luehmannii*) and/or eucalyptus particularly Black Box (*Eucalyptus largiflorens*) or Poplar Box (*Eucalyptus populnea*) with an understorey dominated by tussock grasses (NSW DCCEEW 2025a).

Within the Project area this species was primarily recorded growing in Black Box Woodland (with two individuals also recorded within Belah-Rosewood woodland) during surveys completed for the Project's EIS (AMBS 2013). As part of the conditions attached to the EPBC Approval for the Project the existing offset site was established in part to compensate for impacts to Winged Peppergrass habitat.

Targeted surveys for Winged Peppergrass were completed throughout the MOD 6 development footprint as part of the survey requirements for the MOD 6 BDAR. This species was not recorded within (or nearby) vegetation proposed to be impacted within the MOD 6 development footprint.

## Mossgiel Daisy

Mossgiel Daisy (*Brachyscome papillose*) is listed as a vulnerable species under the BC and EPBC Acts. The species is a multi-stemmed perennial herb growing to 40 cm. Flowering has been recorded from June through to December. The species primarily occurs in clay soils on Bladder Saltbush (*Atriplex vesicaria*) and leafless Bluebush (*Maireana aphylla*) plains. It has also been recorded within grassland and in Inland Grey Box (*Eucalyptus microcarpa*) – Cypress Pine (*Callitris* spp.) woodland (NSW DCCEEW 2025a).

This species was recorded in one location along the Mineral Concentrate Transport Route (MCTR) during flora surveys completed for the 2013 Project EIS (AMBS 2013). In this location the species was growing on red cracking clay soils in a shrubland dominated by Bladder Saltbush and *Mariana pyramidata*.

Suitable habitat for this species is not present within the MOD 6 development footprint, or the supplementary offset area.

## 6. Summary and conclusions

Tronox is proposing to modify Development Consent (SSD\_5012) under section 4.55(2) of the EP&A Act to allow for proposed changes to the Atlas-Campaspe Mine component of the Project. The changes would include the construction of an optimised services corridor alignment between the Atlas and Campaspe deposits to improve operational efficiency of the Project. The MOD 6 development footprint would impact on approximately 50.4 ha of native vegetation that comprises part of an existing offset area that was established to offset the impacts of the Project on biodiversity values, including impacts to threatened species listed under the BC and EPBC Acts.

Tronox are proposing to establish a supplementary offset area to compensate for the loss of the existing offset. The supplementary offset area would include approximately 64.8 ha of land that would be incorporated into the existing offset for the project. This parcel of vegetation comprises equivalent PCTs in similar condition to those that would be impacted within the MOD 6 development footprint. The proposed supplementary offset also provides habitat for the suite of threatened species that have potential to occur within the MOD 6 development footprint including habitat for the Cobar Greenhood, Malleefowl, Pink Cockatoo, Hooded Robin (South-eastern), Corben's Long-eared Bat and Southern Whiteface.

The supplementary offset area is considered to be a superior offset as it is located adjacent to the existing offset within a large corridor of vegetation that is connected to the Mungo National Park and conservation area to the west. The existing offset area that would be impacted by the Modification by comparison is surrounded on three sides by development associated with the Atlas-Campaspe Mine. The supplementary offset also provides better quality spinifex and chenopod sandplain mallee, and Belah-Rosewood woodland habitats for the Malleefowl Pink Cockatoo, Hooded Robin (South-eastern), Corben's Long-eared Bat and Southern Whiteface when compared to those within the MOD 6 development footprint.

Overall, the 64.8 ha supplementary offset is suitable to compensate for the loss of 50.41 ha of native vegetation within existing offset area that would occur as a result of the Modification.

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# Appendices

# **Appendix A**

**Species Recorded in the Study Area**

Table A.1 Flora species recorded within supplementary offset area

Family	Exotic	Scientific Name	Common Name
Aizoaceae		<i>Tetragonia eremaea</i>	
Amaranthaceae		<i>Ptilotus exaltatus</i> var. <i>exaltatus</i>	Tall Mulla Mulla
Amaranthaceae		<i>Ptilotus seminudus</i>	
Anthericaceae		<i>Thysanotus baueri</i>	Fringe-lily
Apocynaceae		<i>Marsdenia australis</i>	Doubah
Apocynaceae		<i>Rhyncharrhena linearis</i>	Purple Pentatroppe
Asphodelaceae		<i>Bulbine semibarbata</i>	Wild Onion
Asteraceae		<i>Brachyscome ciliaris</i>	Variable Daisy
Asteraceae		<i>Brachyscome lineariloba</i>	Hard-headed Daisy
Asteraceae		<i>Calotis hispidula</i>	Bogan Flea
Asteraceae	*	<i>Centaurea melitensis</i>	Maltese Cockspur
Asteraceae		<i>Isoetopsis graminifolia</i>	Grass Cushion
Asteraceae		<i>Millotia macrocarpa</i>	
Asteraceae		<i>Minuria leptophylla</i>	
Asteraceae		<i>Olearia pimeleoides</i>	
Asteraceae		<i>Rhodanthe floribunda</i>	Common White Sunray
Asteraceae		<i>Rhodanthe pygmaea</i>	Pigmy Sunray
Asteraceae		<i>Senecio glossanthus</i>	Streaked Poverty Bush
Asteraceae	*	<i>Sonchus oleraceus</i>	Common Sowthistle
Asteraceae		<i>Vittadinia cervicalis</i>	
Asteraceae		<i>Vittadinia cuneata</i>	A Fuzzweed
Asteraceae		<i>Vittadinia</i> spp.	Fuzzweed
Asteraceae		<i>Waitzia acuminata</i>	Orange Immortelle
Boraginaceae		<i>Halgania cyanea</i>	Rough Halgania
Boraginaceae		<i>Omphalolappula concava</i>	Burr Stickseed

Family	Exotic	Scientific Name	Common Name
Brassicaceae	*	<i>Alyssum linifolium</i>	Flax-leaf Alyssum
Brassicaceae		<i>Lepidium phlebopetalum</i>	Veined Peppercross
Brassicaceae	*	<i>Sisymbrium erysimoides</i>	Smooth Mustard
Brassicaceae		<i>Stenopetalum lineare</i>	Threadcross
Caryophyllaceae	*	<i>Herniaria cinerea</i>	
Caryophyllaceae	*	<i>Silene</i> spp.	
Casuarinaceae		<i>Casuarina pauper</i>	Black Oak
Chenopodiaceae		<i>Atriplex acutibractea</i> subsp. <i>acutibractea</i>	
Chenopodiaceae		<i>Atriplex stipitata</i>	Mallee Saltbush
Chenopodiaceae		<i>Atriplex vesicaria</i>	Bladder Saltbush
Chenopodiaceae		<i>Chenopodium curvispicatum</i>	
Chenopodiaceae		<i>Chenopodium desertorum</i>	Desert Goosefoot
Chenopodiaceae		<i>Chenopodium desertorum</i> subsp. <i>virosum</i>	
Chenopodiaceae		<i>Dissocarpus paradoxus</i>	Cannonball Burr
Chenopodiaceae		<i>Enchylaena tomentosa</i>	Ruby Saltbush
Chenopodiaceae		<i>Maireana aphylla</i>	Cotton Bush
Chenopodiaceae		<i>Maireana georgei</i>	Slit-wing Bluebush
Chenopodiaceae		<i>Maireana pentatropis</i>	
Chenopodiaceae		<i>Maireana pyramidata</i>	Black Bluebush
Chenopodiaceae		<i>Maireana sclerolaenoides</i>	
Chenopodiaceae		<i>Maireana trichoptera</i>	
Chenopodiaceae		<i>Maireana triptera</i>	Three-wing Bluebush
Chenopodiaceae		<i>Maireana turbinata</i>	
Chenopodiaceae		<i>Rhagodia spinescens</i>	Thorny Saltbush
Chenopodiaceae		<i>Salsola australis</i>	
Chenopodiaceae		<i>Salsola tragus</i> subsp. <i>tragus</i>	Buckbush, Soft Rolpoly, Saltwort

Family	Exotic	Scientific Name	Common Name
Chenopodiaceae		<i>Sclerolaena diacantha</i>	Grey Copperburr
Chenopodiaceae		<i>Sclerolaena obliquicuspis</i>	
Chenopodiaceae		<i>Sclerolaena uniflora</i>	
Cyperaceae		<i>Schoenus subaphyllus</i>	
Euphorbiaceae		<i>Chamaesyce dallachyana</i>	
Fabaceae (Caesalpinioideae)		<i>Senna artemisioides</i> <--> <i>zygophylla</i>	
Fabaceae (Caesalpinioideae)		<i>Senna artemisioides</i> subsp. <i>X coriacea</i>	
Fabaceae (Caesalpinioideae)		<i>Senna artemisioides</i> subsp. <i>Zygophylla</i>	
Fabaceae (Caesalpinioideae)		<i>Senna form taxon 'petiolaris'</i>	Woody Cassia
Fabaceae (Caesalpinioideae)		<i>Senna artemisioides</i>	
Fabaceae (Faboideae)	*	<i>Medicago laciniata</i>	Cut-leaved Medic
Fabaceae (Faboideae)	*	<i>Medicago minima</i>	Woolly Burr Medic
Fabaceae (Mimosoideae)		<i>Acacia colletioides</i>	Wait-a-while
Fabaceae (Mimosoideae)		<i>Acacia melvillei</i>	Yarran
Geraniaceae	*	<i>Erodium cicutarium</i>	Common Crowfoot
Geraniaceae		<i>Erodium crinitum</i>	Blue Crowfoot
Goodeniaceae		<i>Goodenia pusilliflora</i>	
Goodeniaceae		<i>Scaevola spinescens</i>	
Lamiaceae	*	<i>Salvia verbenaca</i>	Vervain
Lamiaceae		<i>Westringia rigida</i>	Stiff Westringia
Lomandraceae		<i>Lomandra leucocephala</i>	Woolly Mat-rush
Loranthaceae		<i>Lysiana exocarpi</i>	
Malvaceae		<i>Sida fibulifera</i>	Pin Sida
Malvaceae	*	<i>Sida</i> spp.	
Myoporaceae		<i>Eremophila deserti</i>	Turkeybush
Myoporaceae		<i>Eremophila glabra</i>	Tar Bush

Family	Exotic	Scientific Name	Common Name
Myoporaceae		<i>Eremophila glabra</i> subsp. <i>murrayana</i>	Tar Bush
Myoporaceae		<i>Eremophila</i> spp.	
Myoporaceae		<i>Eremophila sturtii</i>	Turpentine Bush
Myoporaceae		<i>Myoporum platycarpum</i>	Sugarwood
Myrtaceae		<i>Eucalyptus costata</i> subsp. <i>murrayana</i>	Ridge-fruited Mallee
Myrtaceae		<i>Eucalyptus dumosa</i>	White Mallee
Myrtaceae		<i>Eucalyptus gracilis</i>	Snap and Rattle
Myrtaceae		<i>Eucalyptus socialis</i>	Red Mallee
Oxalidaceae		<i>Oxalis perennans</i>	
Pittosporaceae		<i>Pittosporum angustifolium</i>	Butterbush
Plantaginaceae		<i>Plantago turrifera</i>	Small Sago-weed
Poaceae		<i>Austrostipa scabra</i>	Speargrass
Poaceae		<i>Austrostipa scabra</i> subsp. <i>falcata</i>	Rough Speargrass
Poaceae		<i>Austrostipa</i> spp.	A Speargrass
Poaceae	*	<i>Schismus barbatus</i>	Arabian Grass
Poaceae		<i>Triodia scariosa</i>	Porcupine Grass
Portulacaceae		<i>Calandrinia eremaea</i>	Small Purslane
Proteaceae		<i>Grevillea huegelii</i>	
Rutaceae		<i>Geijera parviflora</i>	Wilga
Santalaceae		<i>Exocarpos aphyllus</i>	Leafless Ballart
Sapindaceae		<i>Alectryon oleifolius</i>	Western Rosewood
Sapindaceae		<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>	Narrow-leaf Hop-bush
Solanaceae		<i>Nicotiana goodspeedii</i>	
Zygophyllaceae		<i>Roepera angustifolia</i>	Scrambling Twinleaf
Zygophyllaceae		<i>Zygophyllum ammophilum</i>	Sand Twinleaf
Zygophyllaceae		<i>Zygophyllum aurantiacum</i>	Shrubby Twinleaf

Family	Exotic	Scientific Name	Common Name
Zygophyllaceae		<i>Zygophyllum eremaeum</i>	Climbing Twinleaf
Zygophyllaceae		<i>Zygophyllum iodocarpum</i>	Violet Twinleaf
Zygophyllaceae		<i>Zygophyllum ovatum</i>	Dwarf Twinleaf
Zygophyllaceae		<i>Zygophyllum simile</i>	

\*Denotes introduced species

Table A.2 Flora species recorded within Mod 6 development footprint

Family	Exotic	Scientific Name	Common Name
Aizoaceae		<i>Tetragonia</i> spp.	
Amaranthaceae		<i>Ptilotus exaltatus</i> var. <i>exaltatus</i>	Tall Mulla Mulla
Amaranthaceae		<i>Ptilotus spathulatus</i> f. <i>spathulatus</i>	Pussy-tails
Amaranthaceae		<i>Ptilotus</i> spp.	
Anthericaceae		<i>Thysanotus baueri</i>	Fringe-lily
Anthericaceae		<i>Thysanotus tuberosus</i>	Common Fringe-lily
Apocynaceae		<i>Marsdenia</i> spp.	
Asphodelaceae	*	<i>Asphodelus fistulosus</i>	Onion Weed
Asphodelaceae		<i>Bulbine semibarbata</i>	Wild Onion
Asteraceae		<i>Actinobole uliginosum</i>	Flannel Cudweed
Asteraceae		<i>Brachyscome ciliaris</i>	Variable Daisy
Asteraceae		<i>Brachyscome lineariloba</i>	Hard-headed Daisy
Asteraceae	*	<i>Calendula palaestina</i>	Palestine Marigold
Asteraceae	*	<i>Hypochaeris radicata</i>	Catsear
Asteraceae		<i>Minuria cunninghamii</i>	Bush Minuria
Asteraceae		<i>Olearia muelleri</i>	Mueller's Daisy Bush
Asteraceae		<i>Olearia pimeleoides</i>	

Family	Exotic	Scientific Name	Common Name
Asteraceae	*	<i>Onopordum acaulon</i>	Stemless Thistle
Asteraceae		<i>Podolepis capillaris</i>	Invisible Plant
Asteraceae		<i>Rhodanthe floribunda</i>	Common White Sunray
Asteraceae	*	<i>Sonchus oleraceus</i>	Common Sowthistle
Asteraceae		<i>Vittadinia cervicularis</i>	
Asteraceae		<i>Vittadinia condyloides</i>	
Asteraceae		<i>Vittadinia dissecta</i> var. <i>hirta</i>	
Asteraceae		<i>Vittadinia</i> spp.	Fuzzweed
Asteraceae		<i>Waitzia acuminata</i>	Orange Immortelle
Boraginaceae		<i>Halgania cyanea</i>	Rough Halgania
Boraginaceae	*	<i>Heliotropium curassavicum</i>	Smooth Heliotrope
Brassicaceae	*	<i>Alyssum linifolium</i>	Flax-leaf Alyssum
Brassicaceae		<i>Arabidella nasturtium</i>	
Brassicaceae	*	<i>Brassica tournefortii</i>	Mediterranean Turnip
Brassicaceae	*	<i>Carrichtera annua</i>	Ward's Weed
Brassicaceae		<i>Harmsiodoxa brevipes</i>	
Brassicaceae		<i>Lepidium leptopetalum</i>	
Brassicaceae		<i>Lepidium phlebopetalum</i>	Veined Peppercross
Brassicaceae	*	<i>Lepidium</i> spp.	A Peppercross
Brassicaceae	*	<i>Rorippa</i> spp.	
Brassicaceae		<i>Stenopetalum sphaerocarpum</i>	
Caryophyllaceae	*	<i>Silene apetala</i>	
Caryophyllaceae		<i>Silene</i> spp.	
Casuarinaceae		<i>Casuarina pauper</i>	Black Oak
Chenopodiaceae		<i>Atriplex stipitata</i>	Mallee Saltbush
Chenopodiaceae		<i>Chenopodium curvispicatum</i>	

Family	Exotic	Scientific Name	Common Name
Chenopodiaceae		<i>Chenopodium desertorum</i>	Desert Goosefoot
Chenopodiaceae		<i>Dissocarpus paradoxus</i>	Cannonball Burr
Chenopodiaceae		<i>Einadia nutans</i>	Climbing Saltbush
Chenopodiaceae		<i>Enchylaena tomentosa</i>	Ruby Saltbush
Chenopodiaceae		<i>Maireana appressa</i>	
Chenopodiaceae		<i>Maireana brevifolia</i>	
Chenopodiaceae		<i>Maireana georgei</i>	Slit-wing Bluebush
Chenopodiaceae		<i>Maireana pentatropis</i>	
Chenopodiaceae		<i>Maireana pyramidata</i>	Black Bluebush
Chenopodiaceae		<i>Maireana sclerolaenoides</i>	
Chenopodiaceae		<i>Maireana</i> spp.	
Chenopodiaceae		<i>Maireana trichoptera</i>	
Chenopodiaceae		<i>Maireana triptera</i>	Three-wing Bluebush
Chenopodiaceae		<i>Maireana turbinata</i>	
Chenopodiaceae		<i>Rhagodia spinescens</i>	Thorny Saltbush
Chenopodiaceae		<i>Salsola kali</i> var. <i>kali</i>	Blackbush
Chenopodiaceae		<i>Sclerolaena diacantha</i>	Grey Copperburr
Chenopodiaceae		<i>Sclerolaena obliquicuspis</i>	
Chenopodiaceae		<i>Sclerolaena parviflora</i>	
Chenopodiaceae		<i>Sclerolaena</i> spp.	Copperburr, Poverty-bush
Convolvulaceae		<i>Convolvulus remotus</i>	
Convolvulaceae		<i>Convolvulus</i> spp.	A Bindweed
Cupressaceae		<i>Callitris</i> spp.	
Cyperaceae		<i>Schoenus subaphyllus</i>	
Euphorbiaceae		<i>Euphorbia dallachyana</i>	Caustic Weed
Fabaceae		<i>Senna artemisioides</i> subsp. <i>X artemisioides</i>	

Family	Exotic	Scientific Name	Common Name
Fabaceae		<i>Senna artemisioides</i> subsp. <i>X artemisioides</i>	
Fabaceae (Caesalpinioideae)		<i>Senna artemisioides</i> subsp. <i>zygophylla</i>	
Fabaceae (Caesalpinioideae)		<i>Senna form taxon 'petiolaris'</i>	Woody Cassia
Fabaceae (Faboideae)		<i>Eutaxia microphylla</i>	
Fabaceae (Faboideae)	*	<i>Medicago minima</i>	Woolly Burr Medic
Fabaceae (Faboideae)	*	<i>Medicago polymorpha</i>	Burr Medic
Fabaceae (Faboideae)	*	<i>Medicago</i> spp.	A Medic
Fabaceae (Faboideae)	*	<i>Medicago truncatula</i>	Barrel Medic
Fabaceae (Faboideae)		<i>Templetonia egena</i>	Desert Broombush
Fabaceae (Mimosoideae)		<i>Acacia colletioides</i>	Wait-a-while
Fabaceae (Mimosoideae)		<i>Acacia halliana</i>	
Fabaceae (Mimosoideae)		<i>Acacia homalophylla</i>	Yarran
Fabaceae (Mimosoideae)		<i>Acacia ligulata</i>	Sandhill Wattle
Fabaceae (Mimosoideae)		<i>Acacia melvillei</i>	Yarran
Fabaceae (Mimosoideae)		<i>Acacia oxycedrus</i>	Spike Wattle
Fabaceae (Mimosoideae)		<i>Acacia rigens</i>	Needle Wattle
Geraniaceae		<i>Erodium crinitum</i>	Blue Crowfoot
Goodeniaceae		<i>Goodenia fascicularis</i>	Mallee Goodenia
Goodeniaceae		<i>Goodenia</i> spp.	
Goodeniaceae		<i>Scaevola spinescens</i>	
Lamiaceae	*	<i>Marrubium vulgare</i>	White Horehound
Lamiaceae	*	<i>Salvia</i> spp.	
Lamiaceae	*	<i>Salvia verbenaca</i>	Vervain
Lomandraceae		<i>Lomandra effusa</i>	Scented Mat-rush
Lomandraceae		<i>Lomandra leucocephala</i>	Woolly Mat-rush
Malvaceae		<i>Sida corrugata</i>	Corrugated Sida

Family	Exotic	Scientific Name	Common Name
Malvaceae		<i>Sida fibulifera</i>	Pin Sida
Malvaceae	*	<i>Sida</i> spp.	
Marsileaceae		<i>Marsilea</i> spp.	A Nardoo
Myoporaceae		<i>Eremophila glabra</i>	Tar Bush
Myoporaceae		<i>Eremophila sturtii</i>	Turpentine Bush
Myoporaceae		<i>Myoporum platycarpum</i>	Sugarwood
Myrtaceae		<i>Eucalyptus costata</i> subsp. <i>murrayana</i>	Ridge-fruited Mallee
Myrtaceae		<i>Eucalyptus costata</i> subsp. <i>murrayana</i>	Ridge-fruited Mallee
Myrtaceae		<i>Eucalyptus dumosa</i>	White Mallee
Myrtaceae		<i>Eucalyptus gracilis</i>	Snap and Rattle
Myrtaceae		<i>Eucalyptus leucoxylon</i> subsp. <i>connata</i>	
Myrtaceae		<i>Eucalyptus socialis</i>	Red Mallee
Orchidaceae		<i>Pterostylis cobarensis</i>	Cobar Greenhood
Orchidaceae		<i>Pterostylis jeansii</i>	
Oxalidaceae		<i>Oxalis perennans</i>	
Poaceae		<i>Aristida holathera</i> var. <i>holathera</i>	Erect Kerosene Grass
Poaceae		<i>Austrostipa nitida</i>	
Poaceae		<i>Austrostipa scabra</i> subsp. <i>falcata</i>	Rough Speargrass
Poaceae		<i>Austrostipa</i> spp.	A Speargrass
Poaceae		<i>Enneapogon nigricans</i>	Niggerheads
Poaceae		<i>Panicum</i> spp.	Panicum
Poaceae		<i>Paspalidium constrictum</i>	Knottybutt Grass
Poaceae		<i>Paspalidium</i> spp.	
Poaceae		<i>Rytidosperma richardsonii</i>	Straw Wallaby-grass
Poaceae		<i>Rytidosperma</i> spp.	Wallaby Grass
Poaceae		<i>Triodia scariosa</i>	Porcupine Grass

Family	Exotic	Scientific Name	Common Name
Poaceae		<i>Triodia</i> spp.	Spinifex
Portulacaceae		<i>Calandrinia eremaea</i>	Small Purslane
Rutaceae		<i>Geijera parviflora</i>	Wilga
Santalaceae		<i>Exocarpos aphyllus</i>	Leafless Ballart
Santalaceae		<i>Exocarpos</i> spp.	Ballard
Sapindaceae		<i>Alectryon oleifolius</i>	Western Rosewood
Sapindaceae		<i>Alectryon</i> spp.	
Sapindaceae		<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>	Narrow-leaf Hop-bush
Solanaceae		<i>Nicotiana suaveolens</i>	Native Tobacco
Solanaceae		<i>Solanum esuriale</i>	Quena
Zygophyllaceae		<i>Zygophyllum iodocarpum</i>	Violet Twinleaf
Zygophyllaceae		<i>Zygophyllum</i> spp.	Twinleaf

Key : \* - exotic species

V – listed as a vulnerable species.

Table A.3 Fauna recorded in the development footprint and supplementary offset area

Species group	Common name	Scientific name	Exotic	BC Act Status	EPBC Status	Species recorded in MOD 6 development footprint	Species recorded in offset supplementary area
Bird	Apostlebird	<i>Struthidea cinerea</i>				X	X
Bird	Australian Magpie	<i>Gymnorhina tibicen</i>				X	X
Bird	Australian Owlet-nightjar	<i>Aegotheles cristatus</i>				X	X
Bird	Australian Raven	<i>Corvus coronoides</i>				X	X
Bird	Australian Ringneck	<i>Barnardius zonarius zonarius</i>				X	X
Bird	Black-faced Cuckooshrike	<i>Coracina novaehollandiae</i>				X	X
Bird	Brown Falcon	<i>Falco berigora</i>				X	X
Bird	Brown Treecreeper	<i>Climacteris picumnus picumnus</i>				X	X
Bird	Brown-headed Honeyeater	<i>Melithreptus brevirostris</i>				X	X
Bird	Chestnut Quail-thrush	<i>Cinclosoma castanotum</i>		VU		X	X
Bird	Chesnut-rumped Thornbill	<i>Acanthiza uropygialis</i>				X	X
Bird	Common Bronzewing	<i>Phaps chalcoptera</i>				X	X
Bird	Crested Bellbird	<i>Oreoica gutturalis</i>				X	X
Bird	Crested Pigeon	<i>Ocyphaps lophotes</i>				X	X
Bird	Emu	<i>Dromaius novaehollandiae</i>				X	X
Bird	Great Egret	<i>Ardea alba modesta</i>				X	
Bird	Grey Butcherbird	<i>Cracticus torquatus</i>				X	X
Bird	Grey Shrike-thrush	<i>Colluricincla harmonica</i>				X	X
Bird	Hooded Robin	<i>Melanodryas cucullata</i>				X	
Bird	Jacky Winter	<i>Microeca fascinans</i>				X	
Bird	Little Crow	<i>Corvus bennetti</i>				X	
Bird	Magpie-lark	<i>Grallina cyanoleuca</i>				X	
Bird	Major Mitchell's Cockatoo	<i>Lophochroa leadbeateri</i>		VU	EN	Locality	Locality
Bird	Malleefowl	<i>Leipoa ocellata</i>		EN	VU	Locality	Locality
Bird	Masked Woodswallow	<i>Artamus personatus</i>				X	
Bird	Mulga Parrot	<i>Psephotellus varius</i>				X	X

Species group	Common name	Scientific name	Exotic	BC Act Status	EPBC Status	Species recorded in MOD 6 development footprint	Species recorded in offset supplementary area
Bird	Nankeen Kestrel	<i>Falco cenchroides</i>				X	
Bird	Pied Butcherbird	<i>Cracticus nigrogularis</i>				X	
Bird	Rainbow Bee-eater	<i>Merops ornatus</i>				X	X
Bird	Red-backed Kingfisher	<i>Todiramphus pyrrhopygia</i>				X	
Bird	Red-capped Robin	<i>Petroica goodenovii</i>				X	
Bird	Rufous Whistler	<i>Pachycephala rufiventris</i>				X	X
Bird	Sacred Kingfisher	<i>Todiramphus sanctus</i>				X	
Bird	Singing Honeyeater	<i>Gavicalis virescens</i>				X	X
Bird	Southern Whiteface	<i>Aphelocephala leucopsis</i>		VU	VU	X	
Bird	Spiny-cheeked Honeyeater	<i>Acanthagenys rufogularis</i>				X	X
Bird	Spotted Pardalote	<i>Pardalotus punctatus</i>				X	X
Bird	Striated Pardalote	<i>Pardalotus striatus</i>				X	X
Bird	Striped Honeyeater	<i>Plectorhyncha lanceolata</i>				X	
Bird	Tawny Frogmouth	<i>Podargus strigoides</i>				X	
Bird	Wedge-tailed Eagle	<i>Aquila audax</i>				X	
Bird	Weebill	<i>Smicrornis brevirostris</i>				X	X
Bird	Welcome Swallow	<i>Hirundo neoxena</i>				X	
Bird	White-browed Woodswallow	<i>Artamus superciliosus</i>				X	
Bird	White-eared Honeyeater	<i>Nesoptilotis leucotis</i>				X	
Bird	White-winged Chough	<i>Corcorax melanorhamphos</i>				X	X
Bird	Willie Wagtail	<i>Rhipidura leucophrys</i>				X	
Bird	Yellow-plumed Honeyeater	<i>Ptilotula ornata</i>				X	X
Bird	Yellow-throated Miner	<i>Manorina flavigula</i>				X	
Mammal	Common Dunnart	<i>Sminthopsis murina</i>		VU		Locality	

Species group	Common name	Scientific name	Exotic	BC Act Status	EPBC Status	Species recorded in MOD 6 development footprint	Species recorded in offset supplementary area
Mammal	Corben's Long-eared Bat	<i>Nyctophilus corbeni</i>	VU	VU		Locality	X
Reptile	Barking Gecko	<i>Underwoodosaurus milii</i>				X	
Reptile	Beaded Gecko	<i>Lucasium damaeum</i>				X	
Reptile	Bearded Dragon	<i>Pogona vitticeps</i>				X	
Reptile	Box-patterned Gecko	<i>Lucasium steindachneri</i>				X	X
Reptile	Burton's Snake Lizard	<i>Lialis burtonis</i>				X	
Reptile	Butler's Legless Lizard	<i>Delma butleri</i>				X	
Reptile	Common Dwarf Skink	<i>Menetia greyii</i>				X	
Reptile	Coral Snake	<i>Brachyuropsis australis</i>				X	
Reptile	Desert Skink	<i>Liopholis inornata</i>				X	
Reptile	Dwarf Three-toed Slider	<i>Lerista timida</i>				X	
Reptile	Eastern Beaked Gecko	<i>Rhynchoedura ormsbyi</i>				X	X
Reptile	Eastern Robust Slider	<i>Lerista punctatovittata</i>				X	
Reptile	Eastern Stone Gecko	<i>Diplodactylus vittatus</i>				X	X
Reptile	Eastern Tree Dtella	<i>Gehyra versicolor</i>				X	X
Reptile	Inland Snake-eyed Skink	<i>Cryptoblepharus australis</i>				X	
Reptile	Jewelled Gecko	<i>Strophurus elderi</i>		VU		X	
Reptile	Mulga Snake	<i>Pseudechis australis</i>				X	
Reptile	Nobbi Dragon	<i>Diporiphora nobbi</i>				X	
Reptile	Royal Ctenotus	<i>Ctenotus regius</i>				X	
Reptile	Shingleback	<i>Tiliqua rugosa</i>				X	
Reptile	Short-clawed Ctenotus	<i>Ctenotus brachyonyx</i>				X	
Reptile	Smooth Knob-tailed Gecko	<i>Nephrurus levis</i>				X	
Reptile	South-eastern Morethia Skink	<i>Morethia boulengeri</i>				X	X
Reptile	Southern Mallee Ctenotus	<i>Ctenotus atlas</i>				X	
Reptile	Southern Spiny-tailed Gecko	<i>Strophurus intermedius</i>				X	X

Species group	Common name	Scientific name	Exotic	BC Act Status	EPBC Status	Species recorded in MOD 6 development footprint	Species recorded in offset supplementary area
Reptile	Tree Skink	<i>Egernia striolata</i>				X	

Key: X = recorded within the Development footprint / offset supplementary area

Study Area = recorded within the surrounding area of the MOD 6 development footprint or supplementary offset area

Locality = recorded within the 10km radius of the MOD 6 development footprint or supplementary offset area

VU= vulnerable species EN=endangered species.

# **Appendix B**

**BAM credit reports**



# BAM Biodiversity Credit Report (Like for like)

## Proposal Details

Assessment Id 00056996/BAAS17098/25/00056997	Proposal Name Tronox Atlas -Campaspe_ Replacement offset area calculations	BAM data last updated * 05/08/2025
Assessor Name Arien Quin	Assessor Number BAAS17098	BAM Data version * Current classification (live - default) (82)
Proponent Names	Report Created 04/02/2026	BAM Case Status Open
Assessment Revision 0	BOS entry trigger	Assessment Type Major Projects
Date Finalised To be finalised	* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.	

## Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
<b>Nil</b>		
Species		
<b>Nil</b>		



# BAM Biodiversity Credit Report (Like for like)

## Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT

No Changes

Predicted Threatened Species Not On Site

Name

No Changes

## Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)



## BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion	Not a TEC	34.4	831	0	831
143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.	Not a TEC	6.1	0	198	198
170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones	Mallee Bird Community of the Murray Darling Depression Bioregion	19.8	451	0	451
171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion	Not a TEC	4.6	0	112	112

<b>58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion</b>	<b>Like-for-like credit retirement options</b>					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Semi-arid Sand Plain Woodlands This includes PCT's: 58, 252	Semi-arid Sand Plain Woodlands >=50% and <70%	58_Good	Yes	831	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

## BAM Biodiversity Credit Report (Like for like)

<b>143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.</b>	<b>Like-for-like credit retirement options</b>					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Sand Plain Mulga Shrublands This includes PCT's: 69, 119, 124, 128, 129, 139, 140, 143, 199, 215, 220, 232	Sand Plain Mulga Shrublands <50%	143_Moderate	No	198	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
<b>170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones</b>	<b>Like-for-like credit retirement options</b>					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	Mallee Bird Community of the Murray Darling Depression Bioregion This includes PCT's: 170, 174	-	170_Good	Yes	451	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

## BAM Biodiversity Credit Report (Like for like)

<b>171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion</b>	<b>Like-for-like credit retirement options</b>					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Dune Mallee Woodlands This includes PCT's: 171, 172, 191	Dune Mallee Woodlands <50%	171_Good	No	112	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

### Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
<b>Pterostylis cobarensis</b> / Greenhood Orchid	<b>170_Good, 171_Good</b>	24.3	600.00

### Credit Retirement Options

Like-for-like credit retirement options

Species	Spp	IBRA subregion
<b>Pterostylis cobarensis</b> / Greenhood Orchid		Any in NSW



# BAM Predicted Species Report - Stewardship Agreement

## Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00057005/BAAS17098/25/00057006	Tronox Atlas-campaspe BSS- South_NW - Replacement Offset Area Calculations	05/08/2025
Assessor Name	Report Created	BAM Data version *
Arien Quin	04/02/2026	Current classification (live - default) (82)
Assessor Number	Assessment Type	BAM Case Status
BAAS17098	Stewardship (for offset sites)	Open
Assessment Revision	BOS entry trigger	Date Finalised
2		To be finalised

\* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

**Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.**

Common Name	Scientific Name	Vegetation Types(s)
Bardick	Echiopsis curta	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Black Falcon	Falco subniger	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Black-breasted Buzzard	Hamirostra melanosternon	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones

## BAM Predicted Species Report - Stewardship Agreement

Black-breasted Buzzard	<i>Hamirostra melanosternon</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Blue-winged Parrot	<i>Neophema chrysostoma</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Bolam's Mouse	<i>Pseudomys bolami</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Chestnut Quail-thrush	<i>Cinclosoma castanotum</i>	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Corben's Long-eared Bat	<i>Nyctophilus corbeni</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Diamond Firetail	<i>Stagonopleura guttata</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Dusky Woodswallow	<i>Artamus cyanopterus cyanopterus</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion

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Gilbert's Whistler	Pachycephala inornata	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Grey Falcon	Falco hypoleucos	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
Inland Forest Bat	Vespadelus baverstocki	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Interior Blind Snake	Ramphotyphlops endoterus	143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
Jewelled Gecko	Strophurus elderi	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Kultarr	Antechinomys laniger	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion

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Kultarr	Antechinomys laniger	143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Little Eagle	Hieraetus morphnoides	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Little Pied Bat	Chalinolobus picatus	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Mallee Slender Blue-tongue Lizard	Cyclodomorphus melanops elongatus	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Mallee Worm-lizard	Aprasia inaurita	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Malleefowl	Leipoa ocellata	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Marble-faced Delma	Delma australis	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion

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Pied Honeyeater	Certhionyx variegatus	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Pink Cockatoo	Lophochroa leadbeateri	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Purple-crowned Lorikeet	Glossopsitta porphyrocephala	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Purple-gaped Honeyeater	Lichenostomus cratitius	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Ringed Brown Snake	Pseudonaja modesta	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Sandy Inland Mouse	Pseudomys hermannsburgensis	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.

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Sandy Inland Mouse	<i>Pseudomys hermannsburgensis</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Scarlet-chested Parrot	<i>Neophema splendida</i>	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Shy Heathwren	<i>Hylacola cautus</i>	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
South-eastern Hooded Robin	<i>Melanodryas cucullata cucullata</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Southern Ningauai	<i>Ningauai yvonneae</i>	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Southern Scrub-robin	<i>Drymodes brunneopygia</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Southern Whiteface	<i>Aphelocephala leucopsis</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Spotted Harrier	<i>Circus assimilis</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.

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Spotted Harrier	Circus assimilis	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Square-tailed Kite	Lophoictinia isura	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Stripe-faced Dunnart	Sminthopsis macroura	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Varied Sittella	Daphoenositta chrysoptera	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Wedgesnout Ctenotus	Ctenotus brooksi	143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Western Blue-tongued Lizard	Tiliqua occipitalis	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Western Pygmy Possum	Cercartetus concinnus	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Yellow-bellied Sheath-tail-bat	Saccolaimus flaviventris	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion

# BAM Predicted Species Report - Stewardship Agreement

Yellow-bellied Sheath-tail-bat	Saccolaimus flaviventris	143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Yellow-tailed Plain Slider	Lerista xanthura	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion

### Threatened species Manually Added

None added

### Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Common Name	Scientific Name	Plant Community Type(s)
Painted Honeyeater	Grantiella picta	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
Regent Parrot (eastern subspecies)	Polytelis anthopeplus monarchoides	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
White-bellied Sea-Eagle	Haliaeetus leucogaster	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones



## BAM Predicted Species Report - Stewardship Agreement

White-bellied Sea-Eagle	Haliaeetus leucogaster	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
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### Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C
Painted Honeyeater	Grantiella picta	Habitat constraints
Regent Parrot (eastern subspecies)	Polytelis anthopeplus monarchoides	Refer to BAR
White-bellied Sea-Eagle	Haliaeetus leucogaster	Habitat constraints



# BAM Biodiversity Credit Report (Like for like)

## Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00051304/BAAS17098/24/00051305	Atlas campaspe - MOD 6 BDAR	05/08/2025
Assessor Name	Assessor Number	BAM Data version *
Arien Quin	BAAS17098	Current classification (live - default) (82)
Proponent Names	Report Created	BAM Case Status
	11/02/2026	Finalised
Assessment Revision	BOS entry trigger	Assessment Type
2		Major Projects
Date Finalised		
11/02/2026		

\* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

## Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
<b>Nil</b>		
Species		
<b>Nil</b>		

## Additional Information for Approval

Assessment Id	Proposal Name
00051304/BAAS17098/24/00051305	Atlas campaspe - MOD 6 BDAR



## BAM Biodiversity Credit Report (Like for like)

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT

No Changes

Predicted Threatened Species Not On Site

Name

**Grantiella picta** / Painted Honeyeater

**Haliaeetus leucogaster** / White-bellied Sea-Eagle

### Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

## BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion	Not a TEC	4.4	97	0	97
170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones	Mallee Bird Community of the Murray Darling Depression Bioregion	16.3	402	0	402
143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.	Not a TEC	5.5	0	186	186
58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion	Not a TEC	24.2	438	104	542

<b>58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion</b>	<b>Like-for-like credit retirement options</b>					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Semi-arid Sand Plain Woodlands This includes PCT's: 58, 252	Semi-arid Sand Plain Woodlands >=50% and <70%	58_Intact	Yes	438	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Semi-arid Sand Plain Woodlands This includes PCT's: 58, 252	Semi-arid Sand Plain Woodlands >=50% and <70%	58_Disturbed	No	49	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.	

## BAM Biodiversity Credit Report (Like for like)

	Semi-arid Sand Plain Woodlands This includes PCT's: 58, 252	Semi-arid Sand Plain Woodlands >=50% and <70%	58_Cleared	No	55	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
<b>143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.</b>						
<b>Like-for-like credit retirement options</b>						
	<b>Class</b>	<b>Trading group</b>	<b>Zone</b>	<b>HBT</b>	<b>Credits</b>	<b>IBRA region</b>
	Sand Plain Mulga Shrublands This includes PCT's: 69, 119, 124, 128, 129, 139, 140, 143, 199, 215, 220, 232	Sand Plain Mulga Shrublands <50%	143_Intact	No	186	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
<b>170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones</b>						
<b>Like-for-like credit retirement options</b>						
	<b>Name of offset trading group</b>	<b>Trading group</b>	<b>Zone</b>	<b>HBT</b>	<b>Credits</b>	<b>IBRA region</b>

## BAM Biodiversity Credit Report (Like for like)

	Mallee Bird Community of the Murray Darling Depression Bioregion This includes PCT's: 170, 174	-	170_Intact	Yes	402	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
<b>171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion</b>						
<b>Like-for-like credit retirement options</b>						
	<b>Class</b>	<b>Trading group</b>	<b>Zone</b>	<b>HBT</b>	<b>Credits</b>	<b>IBRA region</b>
	Dune Mallee Woodlands This includes PCT's: 171, 172, 191	Dune Mallee Woodlands <50%	171_Intact	Yes	97	South Olary Plain, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

### Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
<b>Pterostylis cobarensis</b> / Greenhood Orchid	<b>171_Intact, 170_Intact</b>	20.7	531.00

### Credit Retirement Options

Like-for-like credit retirement options



## BAM Biodiversity Credit Report (Like for like)

Pterostylis cobarensis / Greenhood Orchid	Spp	IBRA subregion
	Pterostylis cobarensis / Greenhood Orchid	Any in NSW

## Proposal Details

Assessment Id 00051304/BAAS17098/24/00051305	Proposal Name Atlas campaspe - MOD 6 BDAR	BAM data last updated * 05/08/2025
Assessor Name Arien Quin	Report Created 11/02/2026	BAM Data version * Current classification (live - default) (82)
Assessor Number BAAS17098	Assessment Type Major Projects	BAM Case Status Finalised
Assessment Revision 2	BOS entry trigger	Date Finalised 11/02/2026

\* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

**Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.**

Common Name	Scientific Name	Vegetation Types(s)
Bardick	Echiopsis curta	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Black Falcon	Falco subniger	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Black-breasted Buzzard	Hamirostra melanosternon	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.

## BAM Predicted Species Report

Black-breasted Buzzard	<i>Hamirostra melanosternon</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Blue-winged Parrot	<i>Neophema chrysostoma</i>	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Bolam's Mouse	<i>Pseudomys bolami</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Chestnut Quail-thrush	<i>Cinclosoma castanotum</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Corben's Long-eared Bat	<i>Nyctophilus corbeni</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Diamond Firetail	<i>Stagonopleura guttata</i>	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Dusky Woodswallow	<i>Artamus cyanopterus cyanopterus</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion

## BAM Predicted Species Report

Gilbert's Whistler	Pachycephala inornata	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Grey Falcon	Falco hypoleucos	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis	143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Inland Forest Bat	Vespadelus baverstocki	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Interior Blind Snake	Ramphotyphlops endoterus	143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
Jewelled Gecko	Strophurus elderi	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Kultarr	Antechinomys laniger	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones

## BAM Predicted Species Report

Kultarr	Antechinomys laniger	143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Little Eagle	Hieraetus morphnoides	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Little Pied Bat	Chalinolobus picatus	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Mallee Slender Blue-tongue Lizard	Cyclodomorphus melanops elongatus	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Mallee Worm-lizard	Aprasia inaurita	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Malleefowl	Leipoa ocellata	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Marble-faced Delma	Delma australis	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Pied Honeyeater	Certhionyx variegatus	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion

## BAM Predicted Species Report

Pied Honeyeater	<i>Certhionyx variegatus</i>	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Pink Cockatoo	<i>Lophochroa leadbeateri</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Purple-crowned Lorikeet	<i>Glossopsitta porphyrocephala</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Purple-gaped Honeyeater	<i>Lichenostomus cratitius</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Regent Parrot (eastern subspecies)	<i>Polytelis anthopeplus monarchoides</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Ringed Brown Snake	<i>Pseudonaja modesta</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion

## BAM Predicted Species Report

Sandy Inland Mouse	<i>Pseudomys hermannsburgensis</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Scarlet-chested Parrot	<i>Neophema splendida</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Shy Heathwren	<i>Hylacola cautus</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
South-eastern Hooded Robin	<i>Melanodryas cucullata cucullata</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Southern Ningau	<i>Ningau yvonneae</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Southern Scrub-robin	<i>Drymodes brunneopygia</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
Southern Whiteface	<i>Aphelocephala leucopsis</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion

## BAM Predicted Species Report

Spotted Harrier	Circus assimilis	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Square-tailed Kite	Lophoictinia isura	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Stripe-faced Dunnart	Sminthopsis macroura	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Varied Sittella	Daphoenositta chrysoptera	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Wedgesnout Ctenotus	Ctenotus brooksi	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
Western Blue-tongued Lizard	Tiliqua occipitalis	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
Western Pygmy Possum	Cercartetus concinnus	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones

## BAM Predicted Species Report

Western Pygmy Possum	<i>Cercartetus concinnus</i>	58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Yellow-bellied Sheath-tail-bat	<i>Saccolaimus flaviventris</i>	170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
Yellow-tailed Plain Slider	<i>Lerista xanthura</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion

### Threatened species Manually Added

None added

### Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Common Name	Scientific Name	Plant Community Type(s)
Painted Honeyeater	<i>Grantiella picta</i>	143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	171-Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion
		170-Chenopod sandplain mallee woodland/shrubland of the arid and semi-arid (warm) zones
		143-Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes.
		58-Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion

## Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C
Painted Honeyeater	<i>Grantiella picta</i>	Refer to BAR
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	Refer to BAR



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