



**Attexó**

## **Annual Compliance Report 2024 (Year 3)**


Olive Downs Coking Coal Project – Stage 1 Offset Area



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# 1. Introduction

## 1.1 Project background

Pembroke Olive Downs Pty Ltd (Pembroke) owns and operates the Olive Downs Coking Coal Project (the Project), a greenfield metallurgical coal mine within the Bowen Basin, located approximately 40 kilometres (km) south-east of Moranbah, Queensland (Figure 1.1). The coal resource is being mined in stages by conventional open cut mining methods, with product coal to be transported by rail to the Dalrymple Bay Coal Terminal. The Project will produce up to 20 million tonnes per annum of run of mine coal over an anticipated operational life of approximately 79 years. The Project was determined a 'controlled action' due to potential for the mine to have a significant impact on Matters of National Environmental Significance (MNES) including threatened fauna species and a threatened ecological community under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

An approval was granted by the Commonwealth Minister for the Environment on 14 May 2020 (EPBC 2017/7867) for the Project components being the mine site and access road. The action commenced in May 2022, which involved commencement of Stage 1 of the mine construction.

## 1.2 Purpose of this report

In accordance with the conditions of approval (EPBC 2017/7867), an offset is required for impacts to MNES in the Stage 1 mine area. An Offset Area Management Plan (OAMP) was prepared, *Stage 1 Offset Area Management Plan* (OAMP) (EMM 2020), which details the implementation of offset management activities and sets criteria to be met over the duration of the offset. The Stage 1 OAMP was approved by the then Department of Agriculture, Water and Environment, now the Department of Climate Change, Energy the Environment and Water (DCCEEW) on 24 December 2020.

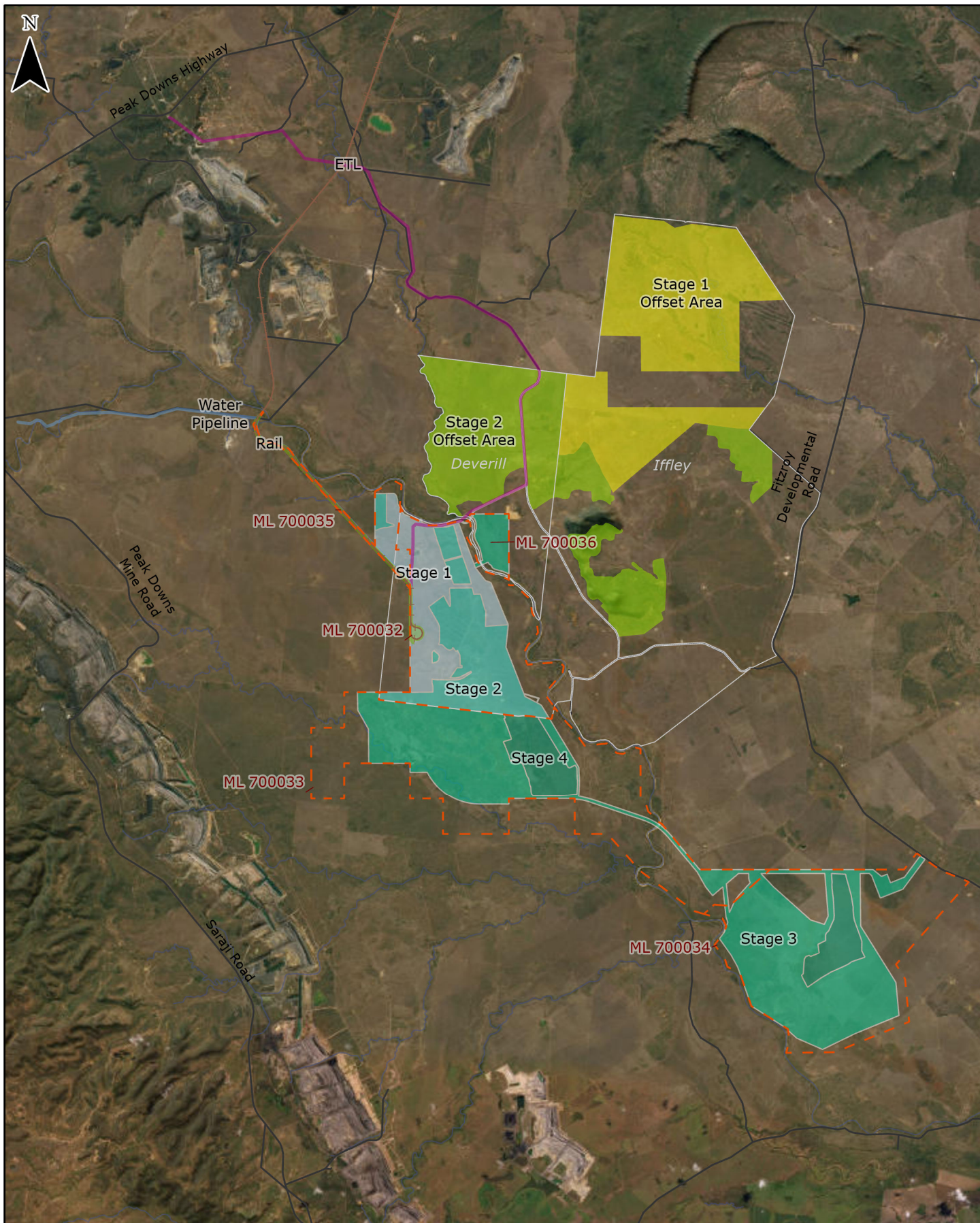
In accordance with the requirements of the OAMP, Pembroke is to conduct ongoing site management and monitoring of a range of activities (as described in Section 2).

At the conclusion of each year of activities (i.e. from March – March), an annual report is to be prepared to review activities undertaken during that period. The annual report is to provide a description of any management actions and/or monitoring activities that have been completed on the Stage 1 Offset Area and report on progress made towards achieving set performance outcomes and objectives as outlined in the OAMP. Table 1.1 captures the annual reporting periods to date.

Table 1.1: Annual reporting of Stage 1 Offset Area

Year	Reporting period
1	February 2022 to February 2023
2	March 2023 to March 2024
3	March 2024 to March 2025





EPBC Stages and Offset Areas  
CRS: WGS 1984 Web Mercator Auxiliary Sphere  
Date Created: 26/09/2024 9:20 AM

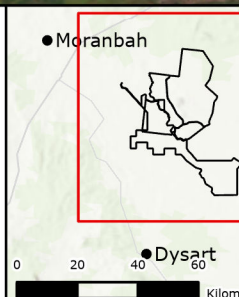


**PEMBROKE**

**Legend**

- Rail
- Roads
- Watercourse
- Mining Lease
- ETL EPBC Corridor
- Rail EPBC Corridor
- Water Pipeline EPBC Corridor

- Stage 1 Offset Area
- Stage 2 Offset Area
- EPBC Stage 1
- EPBC Stage 2
- EPBC Stage 3
- EPBC Stage 4





## 2. Offset area management plan requirements

The Stage 1 OAMP includes a requirement for annual reporting of the site management and monitoring programs undertaken to improve and manage the offset area. These programs are undertaken in accordance with the OAMP (Table 4.1 and Table 4.3 of the OAMP) and include:

- weed monitoring and control
  - weed mapping survey
  - weed control
- biomass control and grazing management
  - ground cover and herbage mass % estimates to accompany the commencement / curtailment of grazing
- fire management
  - fuel load surveys
  - maintenance of fire breaks
- pest fauna management
  - baseline feral animal surveys
  - targeted pest control
  - cane toad tadpole trapping
- fencing
  - removal of barbed wire (or replacement with plain wire)
  - installation of exclusion fencing around MNES habitats
- monitoring of MNES fauna populations on site, including
  - ornamental snake (*Denisonia maculata*)
  - koala (*Phascolarctos cinereus*)
  - squatter pigeon (*Geophaps scripta scripta*)
  - Australian painted snipe (*Rostratula australis*)
  - greater glider (*Petauroides volans*)
- greater glider nest box installation.

Specifically, the OAMP requires the annual report to address the content outlined in Table 2.1. This annual report addresses the relevant items; Table 2.1 cross references where each content item is addressed in this report.

Table 2.1: Annual report content and where addressed in this report

Content	Cross reference
A description of all management actions that have been completed in that 12-month period	Section 4 and Appendix A
A description of the monitoring actions that were completed and results (Approval conditions for 2017/7867)	Sections 3 and 4, Appendix A
Habitat quality scores, using the Guide to Determining Terrestrial Habitat Quality (DEHP 2017), for those years where they are required, for each MNES species and how they are tracking against relevant interim 5-yearly goal	Sections 3 and 4, Appendix A
Identification of any constraints to monitoring and management actions over that timeframe (e.g. high rainfall event therefore inability to access some areas due to flooding, etc.)	Section 5
How any risks or threats have impacted on the area (e.g. drought period therefore lack of growth)	Section 5





Photos from photo monitoring points	Sections 3 and 4
Identification of any risks or potential threats to the offset and offset values that have become apparent and how they will be addressed	Section 5
Any corrective actions implemented during the 12-month period	Sections 4.1 and 4.4.5
Any learnings from the implementation of the OAMP and monitoring	Section 6
Any changes to the OAMP that may be proposed and justification	Section 6

This annual report is informed by reporting and management plans which were prepared to summarise the implementation of each activity; each report provided to Attexo with relevance to Year 3 has been cited throughout, and the reports are available on request. Relevant reports for the Stage 1 Offset Area prepared for, or relevant to, Year 3 are as follows:

- Olive Downs Offset Stage 1 Weed Management Plan (EMM 2022)
- Olive Downs Stage 1 Offset Year 1 Annual Report (EMM 2023a)
- Stage 1 Baseline Habitat Quality Monitoring Report (EMM 2023b)
- Olive Downs Stage 1 Offset Baseline Weed Survey Report (EMM 2023c)
- Olive Downs Stage 1 Offset Cane Toad trapping May 2023 (EMM 2023d)
- Olive Downs Stage 1 Offset Greater Glider nest box installation (EMM 2023e)
- Weed survey (EMM 2024a)
- Olive Downs Stage 1 Offset Year 2 Annual Compliance Report (Attexo 2024)
- Year 3 Feral Animal Survey Stage 1 Offset Area (EMM 2024b)
- Stage 1 Cane Toad tadpole trapping report: Year 3, Quarter 1 (EMM 2024c)
- Stage 1 Cane Toad tadpole trapping report: Year 3, Quarter 2 (EMM 2024d)
- Stage 1 Cane Toad tadpole trapping report: Year 3, Quarter 2 (EMM 2024e)
- Squatter Pigeon Monitoring Memo 2024 (EMM 2024f)
- Olive Downs Coking Coal Project Offset Stage 1: Nest Box Monitoring Report - Round 2 (EMM 2024g)
- Olive Downs Coking Coal Project Offset Stage 1: Nest Box Monitoring Report – Round 3 (EMM 2024h)
- Olive Downs Coking Coal Project Offset Stage 1: Nest Box Monitoring Report - Round 4 (EMM 2024i).
- Stage 1 Year 3 Habitat Quality Monitoring Report (EMM 2024j)

In accordance with the requirements of the OAMP, every 5 years, data from the annual reports will be summarised into a 5-yearly report to be submitted to Queensland's Department of Environment, Tourism, Science and Innovation (DETSI) and DCCEEW. The 5-year interim report will track the past 5 years of monitoring and management actions. It will include a more detailed assessment against the performance criteria and 5-year interim milestones for that project stage, any corrective actions that have been implemented, and any adaptive management learnings. The OAMP will be reviewed after each 5-yearly interim review to adapt to learnings and outcomes of that period, where required.

Details regarding each management and monitoring activity required are summarised in Sections 2.1 to Section 2.8 and progress against targets from the OAMP are assessed in Section 4 and Appendix A.

## 2.1 Weed monitoring and control

Management of weeds is a key action that aims to address ongoing loss and degradation of habitat for MNES fauna species within the Stage 1 Offset Area (EMM 2020). Invasive weeds are identified as a key threat to the ornamental snake, Australian painted snipe and squatter pigeon. Weed monitoring across the Stage 1 Offset Area is to be conducted on an annual basis, and controls (e.g. herbicides) applied as necessary in line with the *Olive Downs Offset Stage 1 Weed Management Plan* (EMM 2022).

Baseline weed data was collected across the offset in 2022 at 49 permanent habitat quality (BioCondition) monitoring sites established in Year 1. Additionally, permanent photographic weed monitoring points were established at 20





locations of high ecological significance, such as riparian corridors. Collectively, this data forms the basis for future comparisons over the Project life to determine if management actions are resulting in a decline in weed abundance and/or diversity over time.

## 2.2 Biomass control and grazing management

Weeds and/or increased biomass are identified in the OAMP as key threats to the ornamental snake, Australian painted snipe and squatter pigeon, resulting in loss and degradation of habitat, loss of feed plants and loss of bare ground important to foraging). Undertaking weed and biomass control is a key action to be undertaken to provide benefits for these threatened species.

Weed and fuel/biomass load is managed through a combination of the following:

- monthly fuel load monitoring undertaken through the quadrat sampling method described in OAMP; if areas are being grazed, quadrat sampling is required weekly
- crash grazing which involves high stocking density in an area for short durations, and excluding stock from the area once grass cover and fuel loads reach the required level
- slashing which involves mowing areas along boundaries or in areas where grazing is not practical
- where relevant, hazard reduction burns, including controlled burning, mechanical clearing and fuel load management and / or cool burns.

Refer to the OAMP for further information pertaining to biomass control and grazing management. Note that, as of the end of Year 3, fuel load monitoring and the associated strategies for fuel load reduction (crash grazing, slashing and hazard reduction burns) had not been employed on the Stage 1 Offset Area. However, cattle had been almost entirely excluded from MNES habitats through destocking by the end of Year 2; in Year 3, very few cattle remained on the offset area. As such, biomass control and grazing management will not be discussed in detail in this report, apart from being assessed in Appendix A.

## 2.3 Fire management

Management of bushfire regimes in the Stage 1 Offset Area (and surrounds on adjacent land owned by Pembroke) aims to reduce the likelihood of threatened species mortality, or loss of habitat due to uncontrolled bushfire. Fire management is also used as a method to control biomass and may be used as a part of an integrated management approach for key weed species (e.g. buffel grass). Key fire tracks were established in Year 1 and will be maintained each year thereafter. Other essential fire tracks may be added in following years if required. Hazard reduction burns prior to the dry season will be undertaken in those years where it is deemed necessary, and conditions are appropriate.

## 2.4 Pest fauna monitoring and management

Feral animal monitoring will determine the relative abundance and distribution of feral animals within the Stage 1 Offset Area. This is achieved by conducting repeatable diurnal and nocturnal survey transects along with the deployment of remote cameras. Feral animal monitoring is to be conducted on an annual basis. This data will subsequently inform any targeted pest control.

A cane toad tadpole trapping program commenced in Year 1, and trapping is to be conducted quarterly for the first 5 years of the offset.

## 2.5 Fencing

Fencing is an integral part of land management. Fences delineate legal boundaries and control access, restrict stock movements, and often provide access routes for land managers with tracks along fence lines. However, fences can restrict the movement of native wildlife, and can cause serious injury and deaths. Barbed wire is a major hazard for wildlife with more than 75 wildlife species identified in Australia as occasional or regular victims of barbed wire fences, especially nocturnal animals such as bats, gliders and owls (WFF 2025). The OAMP states that barbed wire fencing



across the offset area is to be removed or replaced with plain or borderline (white plastic coated) wire within the first six months of Year 1.

## 2.6 Monitoring of MNES fauna

Targeted surveys for all MNES fauna species (namely ornamental snake, koala, squatter pigeon, Australian painted snipe and greater glider) commenced in Year 2. Targeted surveys will assess species ongoing presence, abundance and habitat utilisation across the Stage 1 Offset Area following the schedule for each species in the OAMP.

In accordance with the OAMP requirements, squatter pigeon monitoring is required annually, with all other species monitored for every two years.

Therefore, in Year 3, squatter pigeon was the only species that required targeted survey effort under the OAMP.

## 2.7 Greater glider nest box installation and monitoring

A lack of naturally occurring large tree hollows renders some areas within the Stage 1 Offset Area unsuitable for greater glider denning. In recognition of this, a supplementary nest box program was proposed in the OAMP, intended to supplement denning and breeding habitat for the greater glider. After installation, monitoring and research will be undertaken to evaluate the success of these nest boxes for the species. In Year 1, a survey was completed to determine appropriate locations for installation of the nest boxes. In Year 2, nest boxes were installed, and monitoring of the nest boxes continued on a quarterly basis for the first year following installation. Monitoring in winter and spring was required in Year 3, following the conclusion of the quarterly monitoring in March 2024.

## 2.8 Habitat quality monitoring of MNES habitats

Habitat quality assessments are to be conducted at 49 permanent monitoring sites on a biannual basis across the Stage 1 Offset Area. These sites were established during Year 1 and throughout Year 2, when baseline surveys were conducted; the process and associated habitat quality scoring is described in detail in the first annual report and the *Olive Downs Stage 1 Offset Baseline Habitat Quality Monitoring Report* (EMM 2023b). Habitat quality monitoring via the reassessment of the 49 monitoring sites using BioCondition methodology was required in Year 3.



### 3. Methodology

Various management and monitoring surveys were conducted by suitably qualified ecologists during Year 3.

Climatic conditions during Year 3, based on information recorded at the Moranbah Airport weather station (weather station 034035), are summarised in Table 3.1.

Table 3.1: Weather conditions at Moranbah Airport weather station (034035) in 2024 / 2025

Month	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Total rainfall (mm)	25.6 (100.7)	6.6 (36.4)	4.0 (34.5)	98.4 (22.1)	2.2 (18.0)	34.4 (25.0)	0.0 (9.1)	47.2 (35.7)	65.2 (69.3)	26.8 (103.9)	116.0 (103.8)	226.6 (100.7)
Mean minimum temp (°C)	20.8 (20.2)	16.9 (17.6)	13.9 (14.2)	8.3 (11.2)	8.5 (9.9)	11.4 (11.1)	12.9 (14.1)	16.9 (17.6)	19.6 (19.4)	21.5 (21.1)	21.5 (21.9)	21.3 (21.8)
Mean maximum temp (°C)	33.0 (33.1)	31.0 (29.5)	27.8 (26.5)	25.7 (23.7)	23.3 (23.7)	27.0 (25.5)	30.2 (29.2)	32.9 (32.3)	35.9 (33.1)	35.2 (33.9)	34.8 (33.9)	30.7 (33.1)

Units within brackets represent the meteorological averages between years 1972 - 2012 (rainfall) and 1986 - 2012 (temperatures) at Moranbah Water Treatment Plant (weather station 034038). This data was used instead of the Moranbah Airport (weather station 034035) data due to the lack of long-term climate and rainfall data. The Moranbah Airport weather station replaced the Moranbah Water Treatment Plant weather station in 2012.

Methods of management and monitoring applicable to each broad aspect of the OAMP are summarised in the subsections below. Full details of each management and monitoring action completed, including locations, personnel and detailed methodology are available on request in standalone reports as referenced in Section 2.

### 3.1 Weed monitoring and control

#### 3.1.1 General weed surveys

Weed surveys were undertaken during the reporting period as recommended in the *Olive Downs Offset Stage 1 Weed Management Plan* (EMM 2022). Weed surveys included the identification of weed species present and their distribution and extent across the offset area. Weed monitoring sites were previously established at key locations (including permanent photo monitoring points) to track changes in the abundance and distribution of weeds on the Stage 1 Offset Area. The *Weed Survey* (EMM 2024a) repeated the baseline weed survey to assess changes in weed abundance and weed species richness.

#### 3.1.2 Permanent weed photo monitoring sites

Weed photo monitoring was undertaken as part of the *Weed Survey* (EMM 2024a).

#### 3.1.3 Weed control

Weed control was conducted following the recommendations within the *Olive Downs Offset Stage 1 Weed Management Plan* (EMM 2022). Weed spraying was completed in June and October 2024.

### 3.2 Biomass control and grazing management

Refer to the OAMP for details on planned biomass control and grazing management strategies. Note that by the start of Year 3, the Stage 1 Offset Area was entirely destocked. Cattle were no longer present.



### 3.3 Fire management

Key fire tracks across the Stage 1 Offset Area were maintained by Pembroke during 2024. Maintenance occurred in February 2024 (following the wet season), and in November 2024 (prior to the onset of the wet season). Hazard reduction burns prior to the dry season will be undertaken in those years where it is deemed necessary, and conditions are appropriate; a *Fire Strategy for Olive Downs Offset* (Vegetation Management Science 2024) has been prepared and prescribed burning is planned for April 2025. Fence line preparation and construction set to occur in March 2025.

### 3.4 Pest fauna monitoring and management

Details of the pest fauna monitoring conducted in 2024 are provided in the report *Year 3 Feral Animal Survey: Stage 1 Offset Area* (EMM 2024b). A summary is provided below.

#### 3.4.1 Vehicle transects

Vehicle transects were 1 km in length and were each surveyed three times on separate nights. During each transect, the vehicle was driven at a maximum of 10km/h. A GPS track of the transect was recorded on a handheld GPS device. Both occupants of the vehicle scanned the track ahead and the surrounding habitat for feral animals, using the vehicle lights, high powered spotlights and headtorches. Animals were identified using binoculars when necessary. The location of each feral animal was recorded on a handheld GPS device. Other information recorded included the start and end time of each transect as well as the temperature and weather conditions at the time of survey. Sixteen vehicle transects were located along existing tracks in Area 1 (northern portion of the offset area). An additional eight transects were located in Area 2 (southern portion of the offset area).

#### 3.4.2 Walking transects

Walking transects were each 1 km in length, and traversed areas difficult or impossible to access in vehicles. Each walking transect was surveyed once, with ecologists searching for feral animals or their distinctive sign with high-powered spotlights and headtorches. The transect was recorded on a handheld GPS device. Animals were identified using binoculars when necessary. The location of each feral animal was recorded on a handheld GPS device. Other information recorded included the start and end time of each transect as well as the temperature and weather conditions. Six walking transects were located along creek lines or forested areas in Area 1 (northern portion of the offset area). Two additional transects were located along a creek line and rocky ridge in Area 2 (southern portion of the offset area). Hereafter, vehicle and walking transects are referred to as 'line transects'.

#### 3.4.3 Remote cameras

Twenty remote cameras were deployed along tracks, game trails and near water sources throughout the Stage 1 Offset Area. Cameras were attached to suitable trees or posts and, in general, were positioned approximately 0.5 m above ground level at a 45-degree angle. All cameras were unbaited. GPS coordinates of each deployed camera were recorded for subsequent survey replication.

#### 3.4.4 Cane toad tadpole trapping

To mitigate the threat of cane toad poisoning of ornamental snake, it was proposed that cane toad tadpole trapping should be conducted in a series of locations across the Stage 1 Offset Area. In 2023, surveys were initially undertaken to identify waterbodies that contained cane toad tadpoles, with traps to be installed at each of these sites if cane toads were observed (EMM 2023d). In 2024, Watergum cane toad tadpole traps were deployed at 13 locations (EMM 2024c-e).

At each location, the traps were installed and then left in situ for 4-8 hours. At the end of the trapping session each trap was removed, and the tadpoles collected. Any bycatch was quickly identified, removed and returned to the waterbody. Any cane toad tadpoles caught in the trap were identified, humanely euthanised using the fridge-freezer method and disposed of by burial.





### 3.4.5 Feral animal control

Ground based shooting was conducted on two occasions during 2024 (in June and September) by specialist contractors (Feral Vertebrate Reduction). The following species were targeted on the Stage 1 Offset Area:

- feral cat
- feral pig
- European rabbit
- European hare.

### 3.5 Fencing

Removal of unnecessary fences and barbed wire from the Stage 1 Offset Area commenced in September 2024, and is ongoing. A scope of works document has been prepared outlining the approach and timing of the fencing works.

### 3.6 Monitoring of MNES fauna

In accordance with the OAMP, targeted MNES fauna monitoring is required biannually, commencing in Year 2, for all species apart from squatter pigeon. As such, targeted MNES monitoring for ornamental snake, koala, greater glider and Australian painted snipe was not conducted during Year 3. Survey methods employed for squatter pigeon on an annual basis are to include driving transects, active searches and camera trapping (EMM 2020). Squatter pigeon surveys were conducted by EMM ecologists between October and December 2024 (EMM 2024f).

Ecologists working on site also recorded all MNES species sightings on an incidental basis, but reporting on these sightings is beyond the scope of the current document.

### 3.7 Greater glider nest box monitoring

In accordance with the OAMP, to offset impacts to greater glider habitat on the Olive Downs mine site, nest boxes were installed in suitable habitat across the Stage 1 Offset Area. In June 2023, 56 nest boxes were successfully installed, primarily in riparian areas to augment available habitat for the species and improve denning opportunities for greater glider (EMM 2023e). In Year 3, the OAMP required monitoring of the nest boxes in winter and spring. Nest box monitoring in Year 3 was conducted in May and September.

### 3.8 Habitat quality monitoring of MNES habitats

Habitat quality scoring and monitoring methodology is described in detail within the *Stage 1 Year 3 Habitat Quality Monitoring Report* (EMM 2024j) which outlines each aspect of the habitat quality scoring procedure.

In general, the habitat quality monitoring of MNES habitats at the Stage 1 Offset Area is based on repeated surveys of 49 permanently established BioCondition plots. Comparison of the results of the BioCondition surveys, and the associated habitat quality scores, allows for ongoing monitoring of the condition of MNES habitats protected by the Stage 1 Offset Area.



## 4. Results

### 4.1 Weed monitoring and control

The weed species identified for priority treatment and ongoing monitoring by EMM (2023c) are as follows:

- buffel grass (*Cenchrus ciliaris*)
- guinea grass/green panic (*Megathyrsus maximus*)
- lantana (*Lantana camara*)
- parthenium (*Parthenium hysterophorus*)
- rubber vine (*Cryptostegia grandiflora*)
- velvety tree pear (*Opuntia tomentosa*)
- parkinsonia (*Parkinsonia aculeata*).

An increase in weed abundance (particularly in parthenium and fireweed) was noted from the baseline survey, potentially attributed to vehicles involved in the construction and maintenance of tracks and firebreaks spreading weed seed (EMM 2024a). An increased frequency of weed management events was adopted, as well as implementation of stricter hygiene protocols and signage to help with the spreading of or introduction of weeds on the Stage 1 Offset area.

In Year 3, targeted weed control was conducted on the Stage 1 Offset Area on two occasions (June and October).

### 4.2 Biomass control and grazing management

Refer to the OAMP for details on planned biomass control and grazing management strategies; note that no biomass control (e.g. slashing, controlled burning) was carried out in Year 3, but that the Stage 1 Offset Area was destocked at the end of Year 2.

Fuel load monitoring conducted on an *ad hoc* basis by EMM ecologists and Fireland Consultancy found that fuel loads exceeded acceptable thresholds at certain times of the year. In response, Pembroke commissioned the preparation of the *Fire Strategy for Olive Downs Offset Areas* (VMS 2024). Fireland Consultancy was subsequently engaged to prepare a prescribed burning regime to commence at the end of the wet season in 2025; mosaic burns were scheduled to occur in April or May in accordance with the fire strategy. Outcomes of the planning burns will be captured in the following compliance year (i.e. Year 4).

### 4.3 Fire management

Key fire tracks across the Stage 1 Offset Area were maintained by Pembroke during 2024. Maintenance occurred in February 2024 (following the wet season), and in November 2024 (prior to the onset of the wet season). No hazard reduction burns were conducted in Year 3.

### 4.4 Pest fauna monitoring and management

Detailed results of the pest fauna monitoring conducted in 2023 are provided in the report *Year 3 Feral Animal Survey: Stage 1 Offset Area* (EMM 2024b). A summary of these results is provided below.

#### 4.4.1 Line transects

A total distance of 80 km of line transects were completed by EMM ecologists in Year 3. These comprised 24 x 1 km vehicle transects surveyed 3 times and 8 x 1 km walking transects surveyed once. Ecologists also recorded any feral animals seen on an incidental basis (e.g. while driving between vehicle transect locations or while installing remote cameras). See *Year 3 Feral Animal Survey: Stage 1 Offset Area* (EMM 2024b) for further details.



#### 4.4.2 Remote cameras

Twenty remote camera traps, positioned in the same locations as during previous feral animal surveys (in Year 1 and Year 2), were deployed across the Stage 1 Offset Area during the Year 3 feral animal survey. The unbaited camera traps were situated along vehicle access tracks, game trails and near water sources. Camera traps were deployed on the 14–16 May 2024 and collected on 18–20 June 2024, resulting in between 34 and 37 trap nights being recorded per camera. Overall, there was a total of 714 trap nights (EMM 2024b).

#### 4.4.3 Pest fauna recorded

The *Year 3 Feral Animal Survey* (EMM 2024b) documented six pest fauna species, and a total of 192 individuals during formalised survey effort. European rabbits were the most abundant feral animal encountered. A total of 87 individual rabbit sightings were recorded within the Stage 1 Offset Area, an increase of almost 70 % as compared to Year 2 data. Dingos/wild dogs (40 records) were the second highest recorded species. A summary of the feral animal survey is presented in Table 4.1; note that adult cane toads were present in 'very high' numbers and, as such, individuals were not counted.

Table 4.1: Year 3 pest fauna survey results

Pest fauna species	Camera trap records	Line transect records	Total
Dingo / wild dog	39	1	40
Feral cat	15	6	21
Feral pig	29	6	35
European Rabbit	36	53	89
Brown Hare	1	5	6
Chital Deer	0	4	4
Red Fox	0	0	0
<b>Total</b>	-	-	<b>99</b>

#### 4.4.4 Cane toad tadpole trapping

Three cane toad trapping campaigns were conducted in Year 3: in March, June and in October/November. In total, 2,209 tadpoles were trapped and humanely euthanised. See EMM (2024c-e) for further details.

#### 4.4.5 Feral animal control

Ground based shooting was conducted on two occasions during 2024 (in June and September) by specialist contractors (Feral Vertebrate Reduction [FVR]). On the Stage 1 Offset Area, FVR humanely euthanised 1 feral cat, 41 European rabbits and 7 European hares in June 2024 (FVR 2024a), and humanely euthanised 3 feral cats, 8 feral pigs, 37 European rabbits and 6 European hares in September 2024 (FVR 2024b). FVR noted that the number of dingoes on the Stage 1 Offset Area had slightly increased in 2024 compared to 2023, but that the dingoes were likely to be assisting in the control of feral species (including those mentioned above) on the Stage 1 Offset Area. As such, and in line with the conclusions of the *Year 2 Annual Compliance Report* (Attexo 2024), targeted control of this species is not required.

### 4.5 Fencing

Removal of unnecessary fences and barbed wire from the Stage 1 Offset Area commenced in September 2024 and is ongoing. A scope of works document has been prepared by Pembroke outlining the approach and timing of the fencing works.



## 4.6 Monitoring of MNES fauna

As described in Section 3.6, only targeted monitoring of squatter pigeon was required in Year 3. A summary of the squatter pigeon monitoring conducted by EMM across the Stage 1 Offset Area is provided below; for further details see EMM (2024f).

It is also worth noting that EMM ecologists were present on the Stage 1 Offset Area in the following time periods during Year 3:

- 8-10 March
- 14-16 March
- 22-24 April
- 27 April – 1 May
- 14-16 May
- 19-25 May
- 26-28 May
- 27-30 May
- 18-20 June
- 8-10 September
- 16-20 September
- 5-9 October
- 5-9 November

All incidental records of MNES fauna and flora on these dates were reported as required under relevant licenses.

### 4.6.1 Squatter pigeon driving transects

Seven pre-defined driving transects were slowly driven by EMM ecologists in November 2024, covering a total of 143.7 km. No squatter pigeons were detected on these transects.

### 4.6.2 Squatter pigeon diurnal bird surveys

Each of the 11 pre-defined locations were visited on two occasions by two EMM ecologists and a minimum of 20 person-minutes of survey effort was conducted at each location. A total of 18 squatter pigeons were detected during the diurnal bird surveys.

### 4.6.3 Squatter pigeon remote camera trapping

A total of 19 camera traps were deployed targeting the species at permanent watering points across the offset area. In total, these camera traps collected data over 658 trap days. A minimum total of 62 squatter pigeons were detected on 6 of the 19 remote cameras, typically in small groups of up to 3 birds.

## 4.7 Greater glider nest box monitoring

In June 2023, 56 nest boxes designed specifically for greater glider by Hollow Log Homes were installed primarily in riparian areas to augment available habitat for the species and improve denning opportunities. Following installation, nest boxes were first inspected between 14 and 15 November 2023 using an elevated work platform.

Monitoring of the nest boxes since that time has been conducted in accordance with the OAMP, which requires quarterly monitoring for the first year post-installation and then monitoring in winter and spring for the following two years (i.e. during Years 3 and 4).

Nest box monitoring in Year 3 occurred in March (EMM 2024g), May (EMM 2024h) and September (EMM 2024i) 2024.

In March 2024:

- Greater gliders were observed in 10 separate nest boxes. This equated to a 17.9% occupation rate.
- A total of 11 individual greater gliders were observed.
- Of the nest boxes that contained greater gliders, 70% were timber and 30% were Cyplas.
- Of nest boxes that were observed to contain greater gliders, 9 were in *Eucalyptus tereticornis* and one was in *Eucalyptus crebra*.

In May 2024:





- Greater gliders were observed in 14 separate nest boxes. This equated to a 25% occupation rate.
- A total of 18 individual greater gliders were observed.
- Of the nest boxes that contained greater gliders, 64% were timber and 36% were Cyplas.
- Of nest boxes that were observed to contain greater gliders, 11 were in *Eucalyptus tereticornis*, 2 were in *Eucalyptus crebra* and one was in *Corymbia clarksoniana*.

In September:

- Greater gliders were observed in 15 separate nest boxes. This equated to a 27% occupation rate.
- A total of 18 individual greater gliders were observed.
- Of the nest boxes that contained greater gliders, 47% were timber and 53% were Cyplas.
- Of the 15 nest boxes occupied by greater gliders, 10 were in *Eucalyptus tereticornis*, one was in *Eucalyptus crebra*, two were in *Corymbia tessellaris* and two were located in *Corymbia clarksoniana*.

Uptake of the nest boxes by the species continues to increase, with occupancy rate up to 27% by September 2024. Both types of nest boxes are used frequently, and nest boxes in different tree species are now being utilised.

## 4.8 Habitat quality monitoring of MNES habitats

The following provides a summary of the results presented in the *Stage 1 Year 3 Habitat Quality Monitoring Report* (EMM 2024j). Firstly, GTRE mapping was updated by EMM across the Stage 1 Offset Area to better represent the on-ground conditions. This led to corresponding changes in the delineation of the assessment units (AUs) used to conduct the habitat quality scoring; as such, EMM re-scored the baseline (2022) BioCondition dataset in order to allow for valid comparisons in scores. For maps of the matter areas and Aus considered, detailed scoring spreadsheets and discussion of the results, see EMM (2024j). Table 4.2 provides a summary of the habitat quality monitoring conducted on the Stage 1 Offset Area in Year 3.

Table 4.2: Habitat quality scoring across the Stage 1 Offset Area

Matter area	Corrected baseline HQ score (2022)	Year 3 HQ score	Change in HQ score
Ornamental snake habitat	4.3	4.31	+0.01
Squatter pigeon habitat	6.44	6.40	-0.04
Squatter pigeon habitat (restoration area)	3.61	3.84	+0.23
Greater glider habitat	6.47	6.44	-0.03
Greater glider habitat (future)	4.34	4.53	+0.19
Koala habitat	6.47	6.44	-0.03
Koala habitat (regrowth)	4.51	4.73	+0.22
Koala habitat (future)	3.44	4.10	+0.66
Australian painted snipe habitat	4.93	5.42	+0.49



## 5. Constraints to monitoring and management

Based on review of the management and monitoring actions described in Sections 3 and 4, there were no major constraints to monitoring and management identified during Year 3. Some minor constraints were identified due to limited access of the site following periods of heavy rain. These were responded to and managed during the surveys.



## 6. Conclusion and recommendations

### 6.1 Weed monitoring and control

The *Year 1 Annual Report* (EMM 2023a) stated that “In general, the weed management area was found to have a high weed prevalence”. Recommendations on targeted weed management in that report and in Table 4.1 of the *Olive Downs Stage 1 Offset Baseline Weed Survey Report* (EMM 2023c) should continue to be incorporated into Pembroke’s weed management strategy. Alternative weed management strategies, such as controlled burns, are currently planned for implementation early in Year 4. The *Weed Survey* (2024a) identified parthenium and fireweed as priority species for management.

The *Weed Management Plan* for the offset area (EMM 2022) should continue to be updated annually as per the OAMP.

### 6.2 Biomass control and grazing management

Refer to the OAMP for details on planned biomass control and grazing management strategies; note that no biomass control activities were carried out in 2024, but that cattle were completely removed from the offset site by the start of Year 3. Alternative biomass management strategies, such as controlled burns, are currently planned for implementation early in Year 4.

### 6.3 Fire management

Apart from track maintenance, no active fire management was conducted on the Stage 1 Offset Area during Year 3. Alternative fire management strategies, such as controlled burns, are currently planned for implementation early in Year 4.

### 6.4 Pest fauna monitoring and management

Numbers of pest fauna continue to increase on the Stage 1 Offset Area, but successful control operations by FVR contracting were effective in reducing the populations of pest fauna (particularly European rabbits and hares) (FVR 2024a, b). The number of dingos also continue to increase (likely due to the lack of persecution and prevalence of prey items). As previously discussed in the conclusions of the Year 1 annual report, recent scientific research has indicated that most so-called ‘wild dogs’ in Australia are, genetically, considered to be ‘pure’ dingos (Cairns et al. 2022). Dingo numbers will continue to be monitored across the Stage 1 Offset Area but targeted control of this species is not required at present; there has been no evidence of dingo predation affecting any MNES on the offset area and there is anecdotal evidence that the dingo population is suppressing the populations of feral cats and feral pigs on site (FVR 2025, pers. comm. via email); it is likely that they are also predating European rabbits and hares.

FVR recommended that the approach to targeted control operations (i.e. ground-based shooting) should be slightly modified and that “... a lower frequency but higher volume approach would be more effective than running multiple 72-hour iterations. This is especially relevant given the expansion of the program to cover the broader conservation areas on site. An approach that utilised 6 days of control per iteration, with control iterations conducted quarterly and planned in accordance with peak so-lunar cycles would be more cost effective and produce better ‘on ground’ outcomes” (FVR 2024b). These recommendations should be considered in the planning of future pest control operations.

No corrective action triggers, such as instances of mortality in target matters due to feral animals (e.g. wild dog attack on koala) were identified during Year 3.

Monitoring of feral animals on the Stage 1 Offset Area should continue on an annual basis until Year 5, with the next monitoring round planned for 2025.



### **6.4.1 Cane toad tadpole trapping**

Cane toad tadpole trapping was conducted in March, June and October/November 2024 during Year 3. As stated in the conclusions of the *Year 2 Annual Compliance Report* (Attexo 2024), trapping should be conducted as close to the summer months as possible, when cane toads are actively breeding and present in large numbers. The cane toad tadpole trapping program to date has proven to be ineffective at reducing cane toad numbers; EMM ecologists conducting line transects did not record individual cane toads as the abundance was 'very high'.

It is recommended that the OAMP be updated to remove the requirement for quarterly cane toad tadpole trapping entirely; the associated funds could then be redirected into management actions that have proven to be effective, such as the greater glider nest box installation programme.

## **6.5 Fencing**

Removal of unnecessary fences and barbed wire from the Stage 1 Offset Area commenced in September 2024, and is ongoing. A scope of works document has been prepared outlining the approach and timing of the fencing works.

Remaining barbed wire fences in proximity to greater glider records, or to mapped MNES habitats should be prioritised for removal.

## **6.6 Monitoring of MNES fauna**

The OAMP should be reviewed while planning the Year 4 surveys to ensure that survey effort requirements are met, and the recommendations within Attexo (2024) regarding MNES fauna monitoring, particularly with regards to ornamental snake, should also be considered.

## **6.7 Greater glider nest box monitoring**

Greater gliders continue to occupy the nest boxes installed on the Stage 1 Offset Area; there is now a 27% occupancy rate. Greater gliders are also occupying the nest boxes installed in the retained areas of the Stage 1 Impact Area (B. Nottidge pers. comm. 2025). Nest boxes should continue to be monitored, noting that the success of the uptake of nest boxes should also be published to support success of the management action.

## **6.8 Habitat quality monitoring of MNES habitats**

In general, habitat quality scores for each matter have not changed significantly. This is to be expected, based on the recency of the baseline surveys; several management actions listed in the OAMP and in this report have the potential to increase scores over time. The habitat quality monitoring is next scheduled to occur in Year 5 (2026).





## 7. References

Attexo (2024), *Annual Compliance Report 2023 (Year 2)*, report prepared by Attexo for Pembroke Resources.

Cairns K, Crowther M, Nesbitt B, and Letnic M (2021), The myth of wild dogs in Australia: Are there any out there?, *Australian Mammalogy*, 44, 67–75.

EMM (EMM Consulting Pty Ltd) (2020), *Olive Downs Stage 1 Offset Area Management Plan (v3)*, report prepared by EMM for Pembroke Resources.

- 2022, *Olive Downs Offset Stage 1: Weed Management Plan*, report prepared by EMM for Pembroke Resources.
- 2023a, *Annual Report: Olive Downs Coking Coal Project - Stage 1 offset*, report prepared by EMM for Pembroke Resources.
- 2023b, *Olive Downs Stage 1 Offset: baseline habitat quality monitoring report*, report prepared by EMM for Pembroke Resources.
- 2023c, *Olive Downs Stage 1 Offset: baseline weed survey report*, report prepared by EMM for Pembroke Resources.
- 2023d, *Olive Downs Stage 1 Offset: cane toad trapping May 2023*, report prepared by EMM for Pembroke Resources.
- 2023e, *Olive Downs Stage 1 Offset Greater Glider nest box installation*, report prepared by EMM for Pembroke Resources.
- 2024a, *Weed Survey*, report prepared by EMM for Pembroke Resources.
- 2024b, *Year 3 Feral Animal Survey: Stage 1 Offset Area*, report prepared by EMM for Pembroke Resources.
- 2024c, *Stage 1 Cane Toad tadpole trapping report: Year 3, Quarter 1*, report prepared by EMM for Pembroke Resources.
- 2024d, *Stage 1 Cane Toad tadpole trapping report: Year 3, Quarter 2*, report prepared by EMM for Pembroke Resources.
- 2024e, *Stage 1 Cane Toad tadpole trapping report: Year 3, Quarter 3*, report prepared by EMM for Pembroke Resources.
- 2024f, *Olive Downs Coking Coal Project Offset Stage 1: Nest Box Monitoring Report - Round 2*, report prepared by EMM for Pembroke Resources.
- 2024h, *Olive Downs Coking Coal Project Offset Stage 1: Nest Box Monitoring Report - Round 3*, report prepared by EMM for Pembroke Resources.
- 2024i, *Olive Downs Coking Coal Project Offset Stage 1: Nest Box Monitoring Report - Round 4*, report prepared by EMM for Pembroke Resources.
- 2024j, *Stage 1 Year 3 Habitat Quality Monitoring Report*, report prepared by EMM for Pembroke Resources.

FVR (Feral Vertebrate Reduction Contracting) (2024a), *Pembroke – Olive Downs – Feral animal control June 2024*, memo prepared by FVR for Pembroke Resources.

- 2024b, *Pembroke – Olive Downs – Feral animal control September 2024*, memo prepared by FVR for Pembroke Resources.

VMS (Vegetation Management Science) 2024, *Fire Strategy for Olive Downs Offset Areas*, report prepared by VMS for Pembroke Resources.

WFF (Wildlife Friendly Fencing) (2025), Wildlife friendly fencing and netting, available online: <https://wildlifefriendlyfencing.org/>, accessed 28/04/2025.



## **Appendix A**

### Year 3 compliance summary



Table A.1: Olive Downs Stage 1 Offset Area progress table (Year 3)

Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
<b>Management actions</b>			
Regeneration works	<ul style="list-style-type: none"><li>Active revegetation (seeding/planting) will be a contingency measure in the event that natural regeneration is not readily occurring after at least three successive annual monitoring events. At least three years is required to allow natural regeneration to occur based on existing seed stock, for weed control and grazing management to encourage further growth over this time and soil conditions to be improved.</li></ul>	Not yet triggered	<ul style="list-style-type: none"><li>N/A</li></ul>
Weed control	<ul style="list-style-type: none"><li>Weed species to be managed in accordance with the project's weed management action plan and consistent with Table 4.2 of OAMP</li><li>Targeted weed control measures required annually, to avoid new areas of infestation and reduce weed cover across the offset area.</li></ul>	Compliant	<ul style="list-style-type: none"><li>Recommendations in the weed management plan followed.</li><li>Two targeted weed control events in June and October 2024.</li></ul>
Biomass control and grazing management	<ul style="list-style-type: none"><li>Monthly fuel load monitoring via quadrat sampling to be conducted; fuel load monitoring on a weekly basis if areas are being grazed.</li><li>Minimise fuel loads through crash grazing, slashing and/or hazard reduction burns and cool burns.</li><li>Ensure cattle are excluded from major watercourses. Adjacent riparian areas (at least 50 m either side of any major water source) will be fenced off. Off-stream watering points will be installed to ensure cattle have adequate access to water.</li></ul>	In progress	<ul style="list-style-type: none"><li>No fuel load monitoring has been conducted.</li><li>Reduction of fuel load has not occurred.</li><li>Cattle were entirely excluded from the offset area in Year 3; very few now remain on site, if any. Consequently, riparian areas are now largely free from their influence.</li><li>It is recommended that biomass control and grazing management is implemented in accordance with the OAMP including grazing zones as per this table.</li><li>Controlled burn planned for April 2025.</li></ul>

Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
	<ul style="list-style-type: none"> <li>During set times of year (wet season) or following significant rainfall (&gt;50 mm in 7 days), grazing will be excluded in gilgai areas to ensure gilgai habitats are protected.</li> <li>Crash grazing will be used to maintain native vegetation and grassy open woodland ecosystems. Crash grazing will be undertaken at specific times of year for short periods to control weed cover or control excessive grass biomass in above average growth seasons. Grazing will be undertaken at a time of year immediately prior to flowering of key weed species to reduce seed set, or as required to control biomass. Grazing should be excluded from any areas with low levels of weed cover (&lt;50%) or low biomass (&lt;70%).</li> <li>Areas of existing naturally regenerating native vegetation (i.e. naturally occurring areas of saplings or 'suckers') should be fenced off and grazing excluded. Grazing may not occur in these areas until the saplings are of a size to withstand grazing and browsing from stock (approximately 2-3 years). After such time, crash grazing will be used to maintain native vegetation and grassy ecosystems. Crash grazing will be undertaken at specific times of year for short periods to control weed cover or control excessive grass biomass in above average growth seasons. Grazing will be undertaken at a time of year immediately prior to flowering of key weed species to reduce seed set, or as required to control biomass. Grazing should be excluded from any areas with low levels of weed cover (&lt;50%) or low biomass (&lt;70%).</li> </ul>		

Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
	<ul style="list-style-type: none"> <li>Crash grazing will be used to maintain native vegetation and grassy ecosystems. Crash grazing will be undertaken at specific times of year for short periods to control weed cover or control excessive grass biomass in above average growth seasons. Grazing will be undertaken at a time of year immediately prior to flowering of key weed species to reduce seed set, or as required to control biomass. Grazing should be excluded from any areas with low levels of weed cover (&lt;50%) or low biomass (&lt;70%). Once evidence of natural regeneration is occurring, the grazing management strategy for regrowth woodlands outlined above should be applied.</li> </ul>		
Fire management	<ul style="list-style-type: none"> <li>Educate employees and contractors on general fire awareness and response procedures.</li> <li>Create and maintain fire tracks (fire breaks) for fire control.</li> <li>Reduce fuel loads when required (see biomass control above).</li> <li>Hazard reduction burns.</li> <li>Mosaic burning.</li> </ul>	In progress	<ul style="list-style-type: none"> <li>Employees and contractors visiting the Stage 1 Offset Area receive fire response education as a part of site induction procedures.</li> <li>Designated fire breaks were examined and maintained in Year 3.</li> <li><i>Fire Strategy for Olive Downs Offset Areas</i> (VMS 2024) prepared.</li> <li>Controlled burn planned for April 2025 (Fireland Consultancy).</li> </ul>
Pest fauna management	<ul style="list-style-type: none"> <li>Species specific management controls to be implemented as per Table 4.4 of OAMP.</li> <li>Cane toad tadpole trapping to be conducted on a quarterly basis until Year 5.</li> </ul>	Partly compliant	<ul style="list-style-type: none"> <li>Cane toad tadpole trapping was successfully conducted in March, June and October/November 2024, but trapping was not conducted in Q4.</li> <li>Ongoing cane toad tadpole trapping is not recommended; the program has had no discernible impact on the cane toad population on site. An update to the OAMP will be required to remove this commitment.</li> </ul>



Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
			<ul style="list-style-type: none"> <li>FVR conducted two pest fauna control sessions in June and September. It is noted that this is limited to shooting and other actions in OAMP (such as baiting and warren ripping) has not occurred</li> </ul>
Fencing	<ul style="list-style-type: none"> <li>Fences with barbed wire to be replaced with top strands with no barbed wire within first 6 months of Year 1.</li> <li>Fencing to be maintained to allow grazing to be managed.</li> </ul>	In progress	<ul style="list-style-type: none"> <li>Removal of fences and retrofitting of top strands commenced in Year 3 and is continuing.</li> <li>Remaining fences in proximity to greater glider records and MNES habitat mapping should be prioritised for removal.</li> </ul>
Track	<ul style="list-style-type: none"> <li>Annual maintenance of access tracks will be undertaken, including grading and erosion control measures, using graders and road base materials where required. Access tracks/fire breaks will be no wider than 3 metres in width.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Track maintenance was completed in the reporting period in accordance with the OAMP.</li> </ul>
Pathogen management	<ul style="list-style-type: none"> <li>Washdown bays at the entrances of the Stage 1 offset area will be provided to limit the risk of pathogens spreading onto site. Washdowns of vehicles and machinery will be required each time the site is visited.</li> <li>If any areas are reasonably suspected to be infected with this pathogen in future (for example, areas of unexplained vegetation death) a targeted sampling, diagnosis and management strategy will be designed to address impacts and further spread.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No washdown bay has been constructed; one is available nearby on the Olive Downs mine site.</li> <li>Washdown certificates for all vehicles and machinery provided prior to monitoring events.</li> <li>Biosecurity signage is present at the entrance to the offset area.</li> </ul>
Erosion	<ul style="list-style-type: none"> <li>Erosion will be further limited through fencing stock out, revegetating waterways, and managing pigs. Where those controls are not adequate to maintain or improve erosion, appropriate erosion-control measures will be implemented, such as sandbags.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Addressed under broader management actions.</li> </ul>

Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
Prohibited activities	<ul style="list-style-type: none"> <li>The following activities are not permitted to occur under this OAMP, unless express written permission is received from Pembroke and DAWE. <ul style="list-style-type: none"> <li>No clearing of native woody vegetation is permitted within the offset area unless it is required for maintaining 3-m wide fence lines and fire breaks. Clearing of large trees will be avoided to greatest extent possible.</li> <li>No clearing of hollow-bearing trees will be permitted.</li> <li>Existing or future habitat mapped within the offset known important habitat, connecting habitat or adjacent patches of suitable habitat would be cleared, unless essential for management purposes (e.g. fire breaks).</li> <li>The following practices will be prohibited in the Stage 1 offset area: <ul style="list-style-type: none"> <li>a) ploughing</li> <li>b) fertiliser application</li> <li>c) aerial application of pesticide from planes or helicopters</li> <li>d) continuous grazing</li> <li>e) use of livestock feed</li> <li>f) littering or dumping foreign waste</li> <li>g) removal of firewood, native plants or animals</li> <li>h) removal of rocks, sand or gravel</li> <li>i) logging</li> <li>j) hunting</li> </ul> </li> </ul> </li> </ul>	Compliant	<ul style="list-style-type: none"> <li>No prohibited activities occurred in Year 3.</li> </ul>

Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
	<p>k) trapping or shooting (unless approved under this OAMP for controlling pest animals)</p> <p>l) keeping of European beehives and domestic cats and/or dogs.</p>		
<b>Monitoring actions</b>			
Offset administration			
Confirm all prescribed management actions have been completed in timeframes set for that 12-month period	<ul style="list-style-type: none"> <li>All set management actions required in each 12-month period will be evaluated to confirm they have been completed.</li> <li>A suitably qualified person will be engaged by Pembroke Resources to inspect the offset area and confirm work has been completed.</li> <li>Audit will occur on an annual basis.</li> </ul>	Partly compliant	<ul style="list-style-type: none"> <li>An audit of required management actions was completed for Year 3.</li> <li>Not all management actions required in Year 3 were completed (see subsections in this table)</li> <li>It is recommended that an audit is also completed during the Year 4 period, and any outstanding management actions prioritised so that the offset area becomes fully compliant with conditions in Year 4.</li> </ul>
Assess effectiveness and timing of environmental controls implemented	<ul style="list-style-type: none"> <li>After each monitoring event, the results will be evaluated and measured against the specific management outcomes for that particular matter.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Addressed in each report prepared regarding Year 3 actions (refer to documents outlined in Section 2.1 of this report).</li> <li>Summarised in this report.</li> <li>Cane toad tadpole trapping noted as ineffective and recommendations made to begin process so this can cease.</li> </ul>
<p>Timing of corrective actions and evaluation of effectiveness</p> <p>Identify modifications required to the monitoring program and methods</p>	<ul style="list-style-type: none"> <li>Pembroke will undertake a review of the monitoring program. The review will consider: <ul style="list-style-type: none"> <li>Are the monitoring methods effective and providing the information required?</li> <li>Are the monitoring frequencies suitable?</li> <li>Is the monitoring program efficient or are there improvements that could be made?</li> </ul> </li> </ul>	Compliant	<ul style="list-style-type: none"> <li>Full review required after five years.</li> <li>Corrective actions identified throughout monitoring implemented.</li> </ul>

Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
	<ul style="list-style-type: none"> <li>– What changes may be justified and why?</li> </ul>		
Prepare annual report	<ul style="list-style-type: none"> <li>• The Annual Report will include:               <ul style="list-style-type: none"> <li>– description of all management actions that have been completed in that 12-month period</li> <li>– description of the monitoring activities that were completed and results</li> <li>– evaluation of progress against the proposed management outcomes</li> <li>– habitat quality scores for each MNES species and how they are tracking against relevant interim 5-yearly goal</li> <li>– identification of any constraints to monitoring and management actions over that timeframe (eg high rainfall event therefore inability to access some areas due to flooding, etc)</li> <li>– how any risks or threats have impacted on the area (eg drought period therefore lack of growth)</li> <li>– photos from photo monitoring points</li> <li>– identification of any risks or potential threats to the offset and offset values that have become apparent and how they will be addressed</li> <li>– any learnings in that period from implementing the OAMP and monitoring</li> <li>– any changes to the OAMP that may be proposed and justification.</li> </ul> </li> </ul>	Compliant	<ul style="list-style-type: none"> <li>• This document.</li> </ul>
Ecosystem health			

Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
Weeds	<ul style="list-style-type: none"> <li>Weed monitoring survey conducted on an annual basis (including permanent weed monitoring transects and photo monitoring points at large infestations).</li> <li>Management outcomes include no new weed infestations and reductions in cover as per Table 4.2 of OAMP</li> </ul>	Partly compliant	<ul style="list-style-type: none"> <li>Weed monitoring was conducted in Year 3 in accordance with the OAMP.</li> <li>Parthenium and fireweed have increased in cover since the baseline survey.</li> </ul>
Pest fauna	<ul style="list-style-type: none"> <li>Pest fauna survey required on an annual basis until Year 5 including camera trapping and spotlighting.</li> <li>Species specific management controls to be implemented following yearly monitoring surveys (when required).</li> <li>Cane toad tadpole trapping to be conducted on a quarterly basis until Year 5.</li> </ul>	Partly compliant	<ul style="list-style-type: none"> <li>Pest fauna survey was carried out in Year 3 matching timing of Year 2 surveys as per recommendations in Year 2 report.</li> <li>Cane toad tadpole trapping conducted three times; see discussion above regarding value in continuing this action.</li> </ul>
Fire	<ul style="list-style-type: none"> <li>Fire track maintenance required annually.</li> <li>Survey fire tracks annually.</li> <li>Fuel load assessment required quarterly.</li> <li>Fuel load reduction (see Fire management, above) employed when required.</li> </ul>	In progress	<ul style="list-style-type: none"> <li>Fire track maintenance conducted in Year 3.</li> <li>No formal fuel load assessment conducted in Year 3.</li> <li>Controlled burn planned for April 2025.</li> </ul>
Grazing	<ul style="list-style-type: none"> <li>Monitor fuel loads via biomass method using quadrats and assessing groundcover and grass height. This is to be completed by the grazing manager quarterly (in absence of grazing) and weekly (when cattle are allowed to graze).</li> <li>Survey fences and confirm adequate maintenance, and that cattle are excluded from sensitive MNES habitats (e.g. watercourses, gilgai).</li> <li>Assess grazed areas for effectiveness in managing fuel load and that no degradation to environmental values is occurring.</li> </ul>	Non-compliant	<ul style="list-style-type: none"> <li>Pastoral property manager appointed September 2023.</li> <li>No formal monitoring of fuel loads.</li> <li>See Fencing section above for summary of fencing actions.</li> <li>No survey of grazed areas conducted in Year 3 (cattle excluded from offset area).</li> <li>No quarterly checklist completed in Year 3.</li> <li>No quadrat sampling completed.</li> </ul>



Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
	<ul style="list-style-type: none"> <li>• Quadrat sampling method should occur monthly to determine trigger levels, and then once a week when grazing is occurring.</li> <li>• Quarterly checklist to be filled out by grazing manager that will include: <ul style="list-style-type: none"> <li>– Weather conditions</li> <li>– Grazing intensity and stock rotation</li> <li>– Fuel load levels at commencement of grazing and completion of grazing and duration (including photos)</li> <li>– Report on general property maintenance activities such as fencing, access track maintenance etc.</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>• It is recommended that biomass control and grazing management is implemented in accordance with the OAMP.</li> </ul>
Habitat quality	<ul style="list-style-type: none"> <li>• Baseline BioCondition transects will be established in Year 1 across the offset areas. Thirty BioCondition transects have been established to date, and 22 additional ones will be established in all offset areas. This will ensure adequate representation of vegetation communities and habitat types.</li> <li>• In Year 3 BioCondition transects will be re-assessed and habitat quality scores prepared for each MNES species. An analysis of changes will be undertaken including those elements tracking well, and any that haven't improved or worsened. Results will be assessed against interim habitat quality scores set out in Table 6.2 for each MNES species.</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>• BioCondition assessment and habitat quality scoring was completed as required by the OAMP.</li> </ul>
Squatter pigeon monitoring	<ul style="list-style-type: none"> <li>• Weed invasion / occurrence in squatter pigeon habitat assessed as part of weed survey.</li> <li>• Complete squatter pigeon surveys to determine the presence of the species within the offset area (various methods).</li> </ul>	Compliant	<ul style="list-style-type: none"> <li>• Weed survey completed in Year 3.</li> <li>• Targeted squatter pigeon survey conducted in Year 3.</li> </ul>



Management or monitoring measure required by OAMP	Management or monitoring implementation	Compliance	Comments
	<ul style="list-style-type: none"><li>Location of squatter pigeon sightings recorded to assess habitat utilisation and dispersal.</li></ul>		<ul style="list-style-type: none"><li>Incidental sightings recorded while ecologists on site.</li><li>Locations provided.</li></ul>
Greater Glider nestbox monitoring	<ul style="list-style-type: none"><li>Cameras to be used to determine if Greater Gliders are using nest boxes, or if other species are competing for nest boxes.</li></ul>	Compliant	<ul style="list-style-type: none"><li>Nest box monitoring will be undertaken annually in spring.</li></ul>