# Stratford Mining Complex

# Annual Biodiversity Report 2024

**FOR THE YEAR ENDING 31 DECEMBER 2024**

## CONTENTS



## LIST OF APPENDICES

# 1 INTRODUCTION

The Stratford Mining Complex (**SMC**), located in the northern part of the Gloucester Basin NSW, is approximately 10 kilometres (km) south of Gloucester and is owned and operated by Stratford Coal Pty Ltd (**SCPL**), a fully owned subsidiary of Yancoal Australia Limited (**YAL**).

## 1.1 Scope

In accordance with the Stratford Extension Project (**SEP**) Development Consent SSD-4966, the proponent (SCPL) is required in accordance with *Schedule 2, Condition 39* to prepare and implement a Biodiversity Management Plan (**BMP**). This Plan must include:

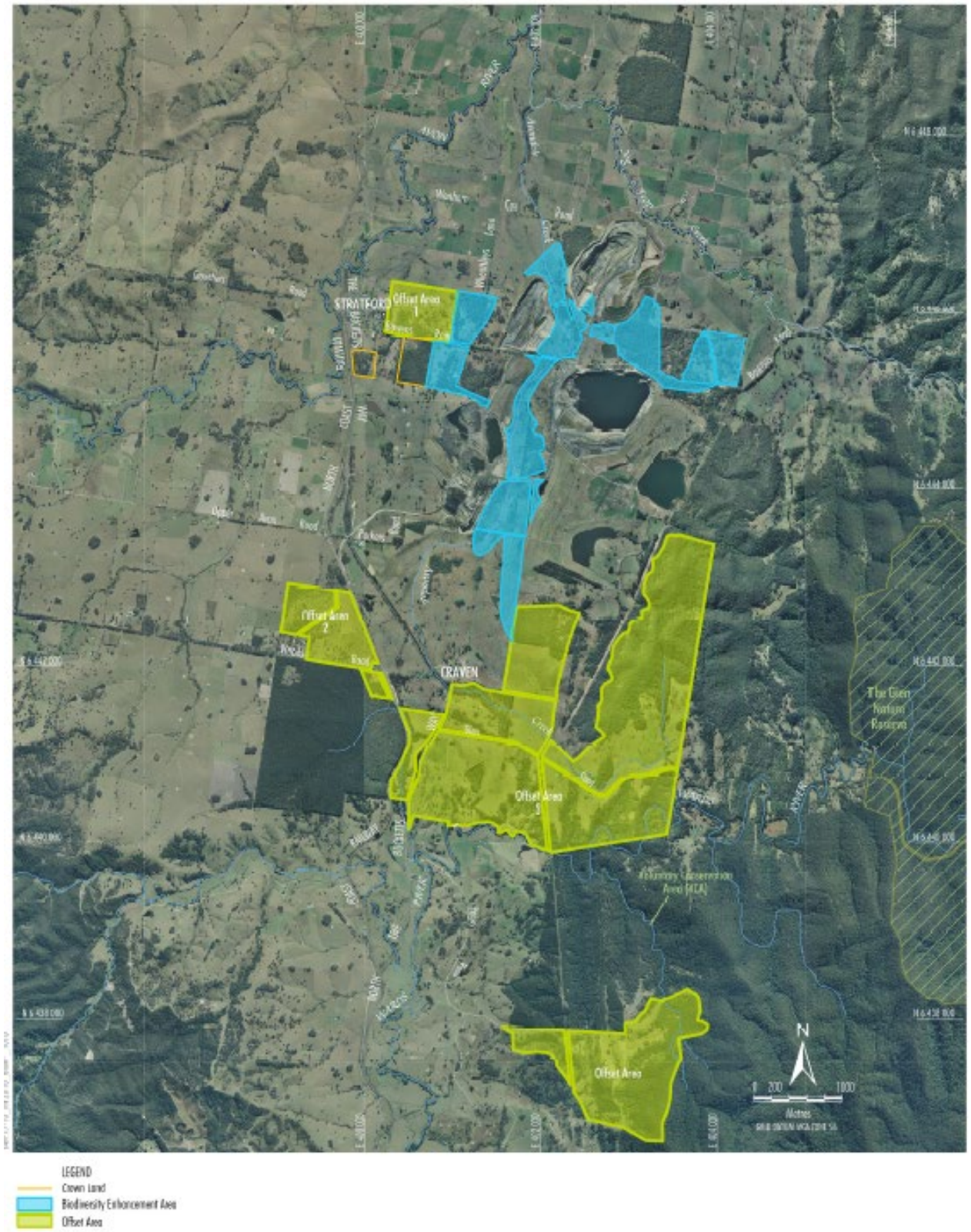
> *"a program to monitor and report on the effectiveness of the measures in the Biodiversity Management Plan, and progress against the detailed performance and completion criteria".*

The BMP was approved by the then Department of Planning and Environment (DPE) (now the Department of Planning, Housing and Infrastructure (DPHI)) on 24 February 2023. This is the seventh Annual Biodiversity Report prepared for the SEP. This SMC Annual Biodiversity Report provides a review of the effectiveness of measures in the BMP for the annual year ending 31 December 2024 in accordance with Section 8.2.1 of the BMP. The scope of the report includes the Mining Lease areas, the Biodiversity Offset Areas and the Biodiversity Enhancement Area as indicated on **Plan A**.

This report (and associated Appendices) is included as an Appendix of the SMC Annual Review which is available on the Stratford Coal website www.stratfordcoal.com.au.

# 2 STATUS OF BMP PERFORMANCE CRITERIA

Performance criteria as prescribed in the BMP is presented in **Tables 1 to 9**. The performance criteria have been developed to meet the specific objectives for the areas described in Section 1.2 of the BMP. All performance criteria are linked to the management specifications listed in the BMP Section 4 and Section 5, and monitoring/reporting specifications in the BMP Section 7. The status of BMP performance criteria is provided in the subsequent sections of this report.




STRATFORDCOAL

STRATFORD EXTENSION PROJECT

Biodiversity Offset Areas,
Biodiversity Enhancement Area

***Plan A – BMP Figure 3***

# 3 VEGETATION CLEARANCE PROTOCOL

## 3.1 Vegetation Clearance Report

Vegetation clearance is undertaken in accordance with the BMP Section 4.1 Vegetation Clearance Protocol. Prior to any clearance operations being undertaken a Clearing Plan is prepared, and pre-clearance surveys are undertaken.

During the 2024 reporting period, the exploration drilling program that commenced in 2023 continued. There was no clearing of native vegetation as part of this program, all drillholes were placed on previously cleared farmland directly next to or on existing light vehicle tracks.

Information obtained during the preparation of the Clearing Plans and the vegetation clearance activities (i.e. habitat features, hollows cleared and fauna observed) is used to determine the requirements for nest box replacement in the Biodiversity Offset and Enhancement Areas (refer to **Section 9**). Within the next reporting period SMC will implement a new Clearing Plan methodology called a Ground Disturbance Permit (GDP).

A summary of the habitat features and tree hollows cleared since the commencement of the SEP is included below:

- 2018 – six (6) habitat features including zero (0) tree hollows
- 2019 – forty-two (42) habitat features including nine (9) glider suitable tree hollows and five (5) other hollows
- 2020 H1 – thirty-three (33) habitat features including nineteen (19) glider suitable tree hollows and eleven (11) other hollows
- 2020 H2 – eighteen (18) habitat features including seven (7) glider suitable tree hollows and eleven (11) other hollows
- 2021 – four (4) habitat features all of which were suitable for gliders
- 2022 – Nil
- 2023 – Nil
- 2024 – Nil

**Note tree hollows are included in the total habitat features reported above.*

## 3.2 Salvaged and Reused Material for Habitat Enhancement

Section 4.1.4 of the BMP requires salvaged material from vegetation clearance activities to be used for habitat enhancement within the rehabilitation, Biodiversity Offset Areas and Biodiversity Enhancement Areas. Habitat features such as trunks, logs, large rocks, branches, stumps and roots are salvaged and relocated where practicable.

The areas cleared for the exploration drilling in 2023 and 2024, as described in **Section 3.1,** were immediately adjacent to roads and had been previously cleared by a previous landholder. Minor removal of regrowth saplings, slashing and weed removal were required. No habitat material was suitable for salvage.

# 4 MANAGING ACCESS, FENCING, GATES AND SIGNAGE

Managing access, fencing, gates and signage is undertaken in accordance with the BMP Section 5.1 and 5.2.

**Table 1: Fencing, Gate and Signage Performance and Completion Criteria**

| Management Action | Performance Criteria | | | Completion Criteria |
|---|---|---|---|---|
| | Year 1 (January – December 2018) | Year 2 (January – December 2019) | Year 3 (January – December 2020) | |
| Review of fencing requirements for offset areas. | Review of fencing complete including development of mapping showing fence and gate types, redundant fences and fences to be retained. | - | - | - |
| Gate and fence installations | 50% of gates and fences installed | Installation of gates and fences complete | - | Gate and fence installations complete. Livestock excluded. |
| Redundant fence removal | 50% of redundant fencing removed | Redundant fences removed | - | No redundant fencing |
| Installation of signage | - | Installation of signage complete | - | Signage installed |

**Table 2: Access Track Performance and Completion Criteria**

| Management Action | Performance Criteria | | | Completion Criteria |
|---|---|---|---|---|
| | Year 1 (January – December 2018) | Year 2 (January – December 2019) | Year 3 (January – December 2020) | |
| Operational review and mapping to facilitate site access for offset management activities. | Operational review developed. Mapping complete | - | - | Operational review and mapping completed |
| Access track enhancement and maintenance | Enhancement of access tracks undertaken as identified in operational review. | Maintenance of access tracks annually | Maintenance of access tracks annually | - |

| Legend | Not commenced | In progress | Completed |
|---|---|---|---|

The implementation of the BMP management measures continued in 2024. The BMP requires works to be undertaken to exclude livestock and control access to the Biodiversity Offset Areas and Biodiversity Enhancement Areas.

Following the initial 2018 review of the existing fencing, gates and access tracks, contractors were engaged to implement the removal of redundant fencing and install new fencing where required. Contractors were also engaged to maintain access tracks required for the ongoing management of the Biodiversity Areas.

During the reporting period mapping of fencing and access tracks has been completed to assist with ongoing management of the Biodiversity Areas. During the reporting period the removal of redundant fencing has continued as well as maintenance and/or replacement of existing fencing has been undertaken as required. Access tracks and previously erected signage have continued to be maintained.

The installation of signage was completed in 2018. All key points of access to the Biodiversity Areas were identified and had signage erected. During the reporting period the need for further signage and locks on gates has been identified to restrict access to the Biodiversity Areas. An audit of signage was completed in 2024, no repairs or signage replacements were identified.

# 5 REVEGETATION MANAGEMENT

## 5.1 Seed Collection and Propagation

Seed collection and propagation is undertaken in accordance with the BMP Section 4.1.5 and 5.3.

**Table 3: Seed Collection and Propagation Performance and Completion Criteria**

| Management Action | Performance Criteria | | | Completion Criteria |
|---|---|---|---|---|
| | Year 1 (January – December 2018) | Year 2 (January – December 2019) | Year 3 (January – December 2020) | |
| Develop seed collection species list | Species list developed over time. | | | - |
| Seed collection | Seed collection commenced | Seed collection to continue | Seed collection to continue | - |
| Seed propagation | - | Seed propagation commenced | Seed propagation to continue | - |

Revegetation in the BMP Revegetation Areas (BMP Management Zone A) will continue via seed and tube-stock. Local endemic (adapted) species are preferentially used where a seed supply is available, however consideration will be given to the use of a high quality seed sourced further from the site as required. An indicative list of flora species proposed to be used in the Revegetation Area (BMP Management Zone A) is provided in the BMP (**Appendix A**).

In preparation for revegetation works each year, SCPL has prepared a scope and schedule for the revegetation works to be implemented (further discussed in **Section 5.2**). The total volume of seed required was calculated based on the floral listings for the target communities in the BMP appendices.

Gloucester Worimi First Peoples Aboriginal Corporation, Hunter Indigenous Plants and Kleinfelder have been engaged to assist in the propagation of native plant species with tube-stock grown under controlled nursery conditions and delivered to site as required for revegetation works in the next reporting period.

## 5.2 Revegetation and Regeneration

Revegetation management is undertaken in accordance with the BMP Section 5.3 Revegetation Programme. The aim of revegetation is to establish a range of habitat niches including native canopy, and understorey. The Revegetation Area (Management Zone A) in the Biodiversity Areas will be revegetated to substantially increase the area of native vegetation in the area and maximise habitat diversity and a range of successional stages.

**Table 4: Revegetation and Regeneration Performance and Completion Criteria**

| Management Action | Performance Criteria | | | Completion Criteria |
|---|---|---|---|---|
| | Year 1 (January – December 2018) | Year 2 (January – December 2019) | Year 3 (January – December 2020) | |
| Site Planning | Site inspection complete and advice received. | - | - | - |
| Map Revegetation Areas (Management Zone A) and identify target vegetation communities to establish | Mapping complete and target vegetation communities identified | - | - | - |
| Develop a species list for each target vegetation community | Species list developed | - | - | - |
| Develop application rates for seeds as well as planting densities for tube stock | Application rates developed | - | - | - |

| Management Action | Performance Criteria | | | Completion Criteria |
|---|---|---|---|---|
| | Year 1 (January – December 2018) | Year 2 (January – December 2019) | Year 3 (January – December 2020) | |
| Implement revegetation schedule | Develop revegetation schedule | Implement revegetation schedule | Implement revegetation schedule | - |
| Revegetation Area (Management Zone A) | Commence revegetation works within the Revegetation Area (Management Zone A) (Figures 12a to 12c) | Continue revegetation works within the Revegetation Area (Management Zone A) (Figures 12a to 12c) | Continue revegetation works within the Revegetation Area (Management Zone A) (Figures 12a to 12c) | Vegetation established and provides suitable habitat for use by native fauna species. |
| Squirrel Glider Vegetation Pathways (Management Zone A1) | Commence planting *of* flora species which provide habitat for the Squirrel Glider within designated revegetation zones (Figures 12a to 12c) | Continue plantings of flora species which provide habitat for the Squirrel Glider | Continue plantings of flora species which provide habitat for the Squirrel Glider | Squirrel Glider vegetation pathways planted within the indicative area shown on Figures 12a to 12c, and provide connective habitat for the Squirrel Glider. |
| *Allocasuarina* spp. Plantings (Management Zone A2) | - | Commence planting of *Allocasuarina* spp. within designated revegetation zones (Figures 12a to 12c) | Complete *Allocasuarina* spp. plantings within Offset Area 3 | *Allocasuarina* spp. plantings within the indicative area shown on Figures 12a to 12c, and provide foraging habitat for the Glossy Black-cockatoo |
| Coastal Floodplain Forest Revegetation (Management Zone A3) | - | - | Re-establishment of flora species characteristic of the Cabbage Gum open forest vegetation community | Improvement in condition of the riparian habitat along Avondale Creek within the indicative area shown on Figures 12a to 12c, as evidenced by monitoring data |
| Existing Remnant Vegetation (Management Zone B) | Inspection to be undertaken to monitor regeneration. | Inspection to be undertaken to monitor regeneration. | Inspection to be undertaken to monitor regeneration. | - |
| Power Line Corridor (Management Zone C)* | -N/A | - | - | - |

## Site Planning & Schedule

During the second half of 2022, a three-year scope and schedule was prepared for the revegetation works to be implemented 2023 – 2026. The proposed revegetation schedule for the Biodiversity Areas in 2024 is included in **Appendix C.** Kleinfelder have been engaged to assist with both site planning and implementation of the revegetation works. The site planning included:

- Mapping of the priority revegetation areas and vegetation communities to be completed in 2023 – 2025; and
- Calculation of seed and tube-stock requirements based on the indicative lists of flora species in the BMP Appendices.

## Revegetation Implementation

The last round of tubestock planting was finished in May 2023 and completed the Autumn 2022 revegetation program which was heavily disrupted by the higher-than-average rainfall experienced in late 2021 and throughout most of 2022. A total of 14,950 plants were installed across the planting areas. These consisted of 6,940 canopy stems made up of 12 species and 8,010 midstorey and shrub species made up of 17 species across two vegetation communities.

The next round of tubestock planting is scheduled to commence in April 2025. Details of the 2025 revegetation works will be included in the next Annual Biodiversity Report.

## Monitoring

Vegetation Monitoring commenced in 2019 to assess the effectiveness of revegetation in the Revegetation Area (Management Zone A) and to assess the natural regeneration in the Existing Remnant Vegetation Area (Management Zone B). The data gathered in 2019 serves as a baseline to assess the success of the revegetation efforts.

Vegetation monitoring was undertaken again in February 2024. The full report is included in **Appendix D** (*Stratford Mining Complex 2024 Biodiversity Offsets Strategy Flora Monitoring Report, Wedgetail Project Consulting 2024*). Habitat and vegetation monitoring is discussed further in **Section 11**. Habitat and vegetation condition monitoring will continue to be undertaken annually to quantitatively measure the change in habitat and vegetation condition over time and to inform any ongoing maintenance requirements.

# 6 WEED CONTROL AND MONITORING

Weed control is undertaken in accordance with the BMP Section 4.4 and Section 5.6. The weed control program aims to manage weeds to minimise their impact on native flora and fauna.

**Table 5: Weed Management Performance and Completion Criteria**

| Management Action | Performance Criteria | | | Completion Criteria |
|---|---|---|---|---|
| | Year 1 (January – December 2018) | Year 2 (January – December 2019) | Year 3 (January – December 2020) | |
| Monitoring of weed location and density | Mapping of weed extent and density produced | - | - | - |
| Bi-annual weed inspections and recording | Inspections and records completed | Inspections and records completed | Inspections and records completed | - |
| Weed control/treatment program | Strategic weed control as required, recording on areas worked and implementation of recommendations | | | Priority weed infestations appropriately controlled and minimised as evidenced through monitoring data |

The general procedure for controlling weed involves:

- Monitoring to identify locations and densities of Priority Weeds;
- Identification of suitable control measures;
- Implementation of the selected control measure by a suitable qualified person; and
- Follow-up inspections to evaluate effective of weed control.

Weed spraying activities are generally undertaken between the months of September and April each year. Physical management measures such as mechanical removal, slashing and/or back-burning can be undertaken at other times of the year as required.

Two contracting companies are engaged at the SMC to undertake weed management activities on an ongoing basis. Weed management during Summer 2023/24 and was continued through Autumn. During Winter 2024, a manual weed control program was implemented in the Stratford woodland rehabilitation area. Summer 2024/25 weed spraying programme commenced again during October 2024 and will continue through Autumn 2024. The weed control activities in 2024 continued to target areas of known weed infestation. The key species targeted included Blackberry, Lantana, Privet, Wild Tobacco, Giant Parramatta Grass and control of the Cadagi Tree.

Weeds mapping has been undertaken during the reporting period to assist in setting future management priorities and developing on-ground actions for weed control (refer to **Appendix H**). From the mapping exercise, review of the Department of Primary Industries (DPI) WeedWise Register the action plan was developed to target Priority Weeds within the offset areas.

Weeds monitoring to evaluate the effectiveness of control measures is undertaken in conjunction with the annual vegetation monitoring and is documented in **Appendix D** (*Stratford Mining Complex 2024 Biodiversity Offset Strategy Flora Monitoring Report, Wedgetail Project Consulting 2024).*

# 7 FERAL ANIMAL CONTROL AND MONITORING

Feral animal control is undertaken in accordance with the BMP Section 4.5 and Section 5.7. The objective of the feral animal control program is to manage feral animals to minimise their impact on native flora and fauna in the Biodiversity Offset and Biodiversity Enhancement Areas and/or their impact on agricultural production in other surrounding areas.

**Table 6: Feral Animal Management Performance and Completion Criteria**

| Management Action | Performance Criteria | | | Completion Criteria |
|---|---|---|---|---|
| | Year 1 (January – December 2018) | Year 2 (January – December 2019) | Year 3 (January – December 2020) | |
| Abundance of feral animal species established | Initial study undertaken in the Biodiversity Offset Area and Biodiversity Enhancement Area. | - | - | - |
| Feral animal control and monitoring | - | Inspections and records completed | - | - |
| Feral animal control program | Feral animal control as required. | | | Feral animal numbers within offset areas minimised as evidenced through monitoring data |

AMBS was commissioned to undertake the initial invasive animal survey in 2017, in accordance with Section 5.7 of the BMP. The objective of the study was to determine the range and abundance of invasive animals that occur or are likely to occur within the Stratford Mining Lease and Biodiversity Areas and provide recommendations for invasive animal control.

MDP Vertebrate Pest Management has been engaged by SCPL since 2016 to implement wild dog and fox control programs across property owned by SCPL including both the Stratford and Duralie Mining Leases and the Stratford and Duralie Biodiversity Offset Areas.

During 2024 no feral animal control programs were undertaken. The last control program at the SMC was conducted between 28 August and 26 September 2023 and focused on wild dog, fox and cat control. The program was productive and successful with a total of 3 wild dogs, 2 foxes and 2 feral cats trapped over the 30 day program. The next feral animal control program is scheduled for Autumn 2025.

In accordance with the BMP Section 5.7 follow-up feral animal monitoring surveys would be undertaken every two years. A feral animal survey of the Biodiversity Offset Area and Biodiversity Enhancement Area was undertaken in 2023 to monitor the success of control programs and determine priorities for ongoing control measures. The *2023 Feral Animal Study of the Stratford Mining Complex* (AMBS, 2024) is included as **Appendix E**.

# 8 BUSHFIRE PREVENTION AND RISK MANAGEMENT

Bushfire management is undertaken in accordance with the BMP Section 4.7 and Section 5.9. The objective of bushfire management in the Biodiversity Areas is to prevent impacts from unplanned bushfire and to use fire to promote biodiversity.

**Table 7: Bushfire Management Performance and Completion Criteria**

| Management Action | Performance Criteria | | | Completion Criteria |
|---|---|---|---|---|
| | Year 1 (January – December 2018) | Year 2 (January – December 2019) | Year 3 (January – December 2020) | |
| Mapping of Fire Breaks and Trails | Mapping complete | - | - | - |
| Monitoring of Fuel Loads | Inspections and records completed | Inspections and records completed | Inspections and records completed | - |
| Controlled Burning | - | Implement (if required) | Implement (if required) | Controlled burns implemented (where required) |

Monitoring of fuel loads to evaluate bushfire risk and guide bushfire hazard reduction activities is undertaken in conjunction with the annual vegetation monitoring and was conducted in February 2024. Further detail is included in **Section 11** and **Appendix D**.

Bushfire risk has continued to be mitigated through the maintenance and installation of new access tracks and fire breaks within the Biodiversity Offset Areas. Additionally, fuel loads have been reduced during 2024 by slashing were required in the Mining Leases and Biodiversity Areas. During 2024, no hazard reduction burning has been undertaken. Following the revegetation works, the aim is to exclude fire from the offset areas for at least 5 years to allow for tubestock and seedlings to establish.

Section 4.7 of the BMP states SCPL will:

- Ensure that the development is suitably equipped to respond to any fires on site; and
- Assist the Rural Fire Service (RFS), emergency services and National Parks and Wildlife Service as much as possible if there is a fire in the surrounding area.

# 9 NEST BOX PROGRAMME

Nest box management is undertaken in accordance with the BMP Section 5.10. Nest boxes will be installed to provide habitat opportunities in the short to medium-term for a number of arboreal fauna species including the Squirrel Glider.

**Table 8: Nest Box Program Performance and Completion Criteria**

| Management Action | Performance Criteria | | | Completion Criteria |
|---|---|---|---|---|
| | Year 1 (2018) | Year 2 (2019) | Year 3 (2020) | |
| Nest Boxes – Installation | Nest boxes installed for clearing activities | Installation continued as clearing progresses | Installation continued as clearing progresses | Nest boxes installed as required. |
| Nest Boxes – Monitoring and Reporting | Quarterly inspections undertaken – undertaken in Year 2 | Annual inspection and records completed | Annual inspection and records completed | - |
| Nest Boxes – Maintenance | - | Maintenance or replacement as required | Maintenance or replacement as required | Nest boxes functioning as designed |

### Implementation & Installation

The nest box programme described in the BMP Section 5.10, consists of two main components to replace any tree hollows cleared prior to mining activities as described in **Section 3** of this report:

- Suitable nest boxes for the Squirrel Glider will be installed at a ratio of least 3:1 for each tree hollow cleared suitable for the Squirrel Glider. Squirrel Glider nest boxes will have a small entrance hole (45-50 millimetres diameter) to exclude larger possums and birds.

- For tree hollows that provide habitat to arboreal fauna species (other than the Squirrel Glider), nest boxes will be installed at a minimum ratio of 1:1 (i.e. one nest box of appropriate size to replace one hollow of similar size and properties). These nest boxes will be provided for birds, bats and arboreal mammals.

Nest boxes will be installed within the Biodiversity Offset Area and Biodiversity Enhancement Area in Existing Remnant Vegetation (Management Zone B) as well as the Revegetation Area (Management Zone A).

As described in **Section 3.1**, a summary of the habitat features and tree hollows cleared since the commencement of the Stratford Extension Project is included below.

- 2018 – six (6) habitat features including zero (0) tree hollows
- 2019 – forty-two (42) habitat features including nine (9) glider suitable tree hollows and five (5) other hollows
- 2020 H1 – thirty-three (33) habitat features including nineteen (19) glider suitable tree hollows and eleven (11) other hollows
- 2020 H2 – eighteen (18) habitat features including seven (7) glider suitable tree hollows and eleven (11) other hollows
- 2021 – four (4) habitat features all of which were identified to be glider suitable tree hollows
- 2022 – Nil
- 2023 – Nil
- 2024 – Nil

The current nest box program has a total of 202 boxes and involves:

- Five (5) nest boxes targeting Squirrel Glider *(Petaurus norfolcensis),* installed December 2018
- Twenty-Five (25) nest boxes targeting Squirrel Glider *(Petaurus norfolcensis),* installed May 2019
- Fifty-four (54) nest boxes targeting Squirrel Glider *(Petaurus norfolcensis)* and Sixteen (16) nest boxes targeting a variety of hollow-dependent fauna, installed April 2020
- Eighty-four (84) nest boxes targeting Squirrel Glider *(Petaurus norfolcensis)* and eighteen (18) nest boxes targeting a variety of hollow-dependent fauna, installed February and March 2021

### Monitoring

In accordance with Section 5.10 of the BMP, nest boxes will be monitored by suitably qualified personnel with quarterly inspections during the first year followed by annual inspections in Spring. Monitoring reports provide details of the nest box identification number, the tree species on which the box is installed, evidence of use and whether fauna was present. Details on each of the fauna species present within nest boxes is collected (sex, weight, length, breeding status and if it had been a new capture or recapture). Nest box monitoring was undertaken during 9 September, 11 September, 8 to 11 October, and 13 to 14 November 2024. The *2024 Stratford Annual Nest Box Programme for the Stratford Offset and Biodiversity Enhancement Areas Annual Report* is included as **Appendix F**.

A total of 10 vertebrate species were recorded within nest boxes or showed signs of occupation during the current reporting period, including the Squirrel Glider, Sugar Glider, Feathertail Glider, Brush-tailed Phascogale, Brown Antechinus, Black Rat, Common Brushtail Possum, unidentified microbat species, White-throated Treecreeper, and Lace Monitor.
Overall, a total of 200 out of 202 nest boxes, or approximately 99%, have been occupied or shown signs of occupancy since their installation. This includes 100% of the nest boxes installed in 2019, 99% of the nest boxes installed in 2020, and 99% of the nest boxes installed in 2021. Occupancy of nest boxes has generally increased over time.

The next round of annual nest box monitoring will be scheduled for between September – December 2025. Within the next reporting period SCPL will review the monitoring frequency of nest boxes based on the trend of high occupancy rates.

# 10 SQUIRREL GLIDER MANAGEMENT PLAN

In accordance with *Schedule 3, Condition 38(a)* of the Development Consent SSD-4966 the management of Squirrel Glider populations is undertaken in accordance with the Squirrel Glider Management Plan (SQMP). The SQMP was approved by the DPE on 19 October 2018 and includes specific management measures in addition to those in the BMP. The SGMP has been prepared to facilitate the management of squirrel glider populations at the SMC, Biodiversity Enhancement Areas and Biodiversity Offset Areas.

Squirrel Glider management programs which have been commenced include:

- Definition of the Squirrel Glider colonies (SQMP Section 4.1)
- Identification of the Squirrel Glider colony home ranges (SQMP 4.2)
- Tree hollow census within the home ranges (SQMP Section 7.1)
- Nest box program (SQMP Section 7.2), in conjunction with BMP nest box program in Section 9
- Squirrel Glider vegetation pathways (SQMP Section 8.1), in conjunction with BMP revegetation in Section 5
- Squirrel Glider population monitoring (SQMP Section 10.1), in conjunction with BMP fauna monitoring in Section 11.2.

## 10.1 Definition of the Squirrel Glider Colonies

Kleinfelder was engaged to undertake an initial targeted Squirrel Glider survey to confirm the location of Squirrel Glider colonies within the potential habitat in the vicinity of the SMC Biodiversity Areas, including the previously identified Squirrel Glider colonies and any new colonies which have been established within the areas identified as potential habitat. The surveys will ensure that future monitoring requirements of the SQMP are being implemented at locations of known colony locations.

The initial surveys were undertaken during November to December 2018 and the results are provided in the *Initial Squirrel Glider survey as part of Stratford Coal's Squirrel Glider Management Plan (Kleinfelder, 2018)*. Squirrel Gliders were identified at five locations out of the 37 locations surveyed. These locations provided the basis for ongoing survey efforts.

**Plate 1 –** Squirrel Glider (*Petaurus norfolcensis*) photographed during initial camera trap surveys

## 10.2 Squirrel Glider Home Ranges

Objectives outlined in Section 4 of the SGMP require measures to establish the home range size of known squirrel glider colonies near the SMC. This information will be used to guide the ongoing management of squirrel glider populations within the SMC Biodiversity Offset Areas and Biodiversity Enhancement Areas. This information will also define the study area for further programs including the census of suitable tree hollows, food resources surveys and habitat enhancement including nest box installations.

Kleinfelder was commissioned by SCPL to conduct a radio tracking program to determine the Squirrel Glider home ranges of the local population based on the colony locations identified in the initial survey.

Two radio tracking programs were conducted between January to April 2019 and July to September 2019 (during the 2019 reporting period). The 2019 radio tracking programs consisted of trapping of Squirrel Gliders, followed by processing and collaring. Generally, two gliders from each colony area were targeted for radio tracking. Radio tracking of the selected gliders was then conducted, followed by analyse of the data and estimating home ranges for each radio-tracked Squirrel Glider. The findings of the initial survey, radio tracking and home range estimations are provided in previous versions of the SMC Annual Biodiversity Report.

**Plate 2 -** Radio-transmitting collar fitted to Squirrel Glider

**Plate 3 -** Squirrel Glider (Sharon) with young

## 10.3 Tree Hollow Census

*Schedule 3, Condition 38(b)* of Development Consent SSD-4966 requires a census of suitable tree hollows in home ranges and offset areas suitable for Squirrel Gliders. A tree hollow census was undertaken within the home ranges identified by the radio tracking program (**Section 10.2**) to identify hollow bearing trees suitable for use as den sites by the Squirrel Glider. The results of the tree hollow census are provided in previous SMC Annual Biodiversity Reports.

# 11 BIODIVERSITY OFFSET MONITORING AND REPORTING

The Biodiversity Offset monitoring program is prescribed in the BMP Section 7. The program aims to monitor and report on the effectiveness of the BMP management measures and progress against the detailed performance and completion criteria.

**Table 9: Monitoring Program – Biodiversity Offset Strategy**

| Monitoring Program | Relevant BMP Section | Frequency |
|---|---|---|
| Visual Monitoring | Section 7.1.1 | Annual |
| Photo Monitoring | Section 7.1.2 | Annually (spring) |
| Habitat and Vegetation Monitoring Program | Section 7.1.3 | Annually (spring) |
| Fauna Monitoring Program | Section 7.1.4 | Every three years |
| Weed Monitoring | Section 5.6 | Biannually |
| Initial Feral Animal Study of the Biodiversity Offset Area and Biodiversity Enhancement Area | Section 5.7 | Within 12 months of approval of the BMP |
| Feral Animal Monitoring | Section 5.7 | Every two years (biannually) |
| Nest Box Monitoring | Section 5.10 | Quarterly for 12 months and then biannually |

## 11.1 Habitat and Vegetation Condition Monitoring

Habitat and vegetation condition monitoring is undertaken to quantitatively measure the change in habitat and vegetation condition over time. The visual monitoring and photo monitoring programs are undertaken concurrently with the vegetation monitoring to provide additional information on the change of the Biodiversity Areas over time and inform maintenance requirements.

Vegetation Monitoring commenced in 2019 to assess the effectiveness of revegetation in the Revegetation Area (Management Zone A) and to assess the natural regeneration in the Existing Remnant Vegetation Area (Management Zone B). The data gathered in 2019 serves as a baseline to assess the success of the revegetation efforts and progress against the project specific performance and completion criteria. This survey was undertaken prior to the revegetation works commencing in the Biodiversity Offset areas.

Vegetation monitoring was undertaken again in February 2024. The full report is included in **Appendix D** (*2024 Stratford Mining Complex Biodiversity Offsets Strategy Flora Monitoring Report, Wedgetail Project Consulting 2024*). Habitat and vegetation condition monitoring will continue to be undertaken annually to quantitatively measure the change in habitat and vegetation condition over time and to inform any ongoing maintenance requirements. Survey results from the 2024 monitoring state that the revegetation program is progressing well with all areas where installation has occurred having some success and well over half the areas achieving or exceeding target densities.

## 11.2 Fauna Monitoring

Monitoring of fauna usage within the Biodiversity Offset Areas, Biodiversity Enhancement Areas and Rehabilitation Areas is conducted every three years to document the fauna species response to improvement in vegetation and habitat in the Biodiversity Areas and assess the performance in providing habitat for a range of vertebrate fauna. The surveys include an assessment of habitat complexity, species richness and abundance.

During 2022 AMBS Ecology & Heritage (AMBS) were engaged to undertake a fauna survey within the SMC Biodiversity Offset Areas Biodiversity Enhancement Areas and Stratford Rehabilitation Areas. The full report is included in **Appendix G** (*SMC Fauna Surveys of the Biodiversity Offset, Biodiversity Enhancement and Rehabilitation Areas 2022, AMBS 2023)*. An extracted summary of the survey results is outlined below.

Targeted fauna surveys were undertaken at six sites within the Stratford Offset Areas, two sites within the Stratford Biodiversity Enhancement Area, and two sites within the Stratford Rehabilitation Area, from 7 to 12 November 2022 and 21 to 26 November 2022. At each site survey techniques included pitfall traps, funnel traps, Elliott A traps, harp traps, ultrasonic call recording, spotlighting, diurnal bird surveys and reptile searches. Frog surveys were undertaken at four separate sites. Opportunistic observations of signs of fauna were noted throughout the field survey period, including travel to and during transit between surveys sites.

A total of 166 species of vertebrate were recorded, comprising 15 frogs, 13 reptiles, 100 birds and 38 mammals most of which were native (refer to the species list included as Appendix A of **Appendix G** of this report).

The fauna surveys suggest the Stratford Offset, Biodiversity Enhancement and Rehabilitation Areas provide foraging resources for a range of native vertebrate fauna, including birds, mammals, reptiles and frogs. This includes at least sixteen species listed as threatened or migratory under the *Biodiversity Conservation Act 2016* (BC Act) and/or *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act).

Notable survey results included:

- The Squirrel Glider being recorded in five locations, including three sites located in the Offset Areas, and both sites located in the Biodiversity Enhancement Area;
- The New Holland Mouse recorded in the Biodiversity Enhancement Area again (as per 2020 report); and
- The Southern Myotis captured in a harp trap positioned on the Wards River, which contained water during the current surveys. This site was dry during previous surveys undertaken in 2019.

The fauna surveys confirm that the Stratford Offset, Biodiversity Enhancement and Rehabilitation areas provide foraging and breeding habitat for a range of native vertebrate fauna, including birds, mammals, reptiles, and frogs.

The fauna monitoring is scheduled to be completed again with the next reporting period.

**Plate 4 -** Brush-tailed Phascogale (*Phascogale tapoatafa*)

**Plate 5 –** Southern Myotis (*Myotis aelleni*)

# 12 LONG TERM SECURITY AND CONSERVATION BOND

## 12.1 Long-term Security

In accordance with *Schedule 3, Condition 36* of Development Consent SSD-4966, SCPL is required to make suitable arrangements for the long-term security of the SEP Biodiversity Offset Area. SCPL has pursued the mechanisms available under Section 88E(3) of the NSW *Conveyancing Act, 1919* (CV Act) namely:

- Registration of a Positive Covenant under Section 88E(3) of the CV Act; and
- Registration of a Restriction on the Use of Land by a Prescribed Authority under Section 88E(3) of the CV Act.

To finalise securing the offset areas, the following actions were conducted:

- Confirmation that the completed instruments are to the satisfaction of the Secretary completed 15 April 2019;
- Execution of the instruments by the prescribed authority (the DPE);
- Execution of the instruments by the three separate registered proprietors of the offset lands (i.e. Yancoal's subsidiary companies, CIM Stratford Pty Ltd; Stratford Coal Pty Ltd and Gloucester Coal Limited);
- Lodgement of the executed instruments with NSW Land Registry Services (LRS) in accordance with LRS's dealing lodgement requirements;
- LRS assessment/review of the instruments to confirm the instruments are acceptable for registration; and
- Registration of the instruments on the titles of the offset lands.

Public Positive Covenants and Restrictions on the Use of Land for the Biodiversity Offsets have been registered on title with NSW Land and Property Information (LPI) in October 2019. Copies of the executed Positive Covenants and notice of registration of the instruments was included in the 2019 SMC Annual Biodiversity Report.

## 12.2 Conservation Bond

In accordance with *Schedule 3*, *Condition 40* of Development Consent SSD-4966, SCPL is required to lodge a Conservation Bond with the DPE which covers the cost of implementing the Biodiversity Offset Strategy detailed in the BMP.

The conservation bond calculation was prepared by Kleinfelder and a verification of the costs was undertaken by Rider Levett Bucknall. The conservation bond calculation was submitted in January 2019 and subsequently approved by DPE on 15 January 2019.

The Conservation Bond in the form of a bank guarantee was executed and lodged with DPE on 8 February 2019. During 2023, a Conservation Bond review commenced by SCPL and will be finalised within the next reporting period.

# 13 COMMONWEALTH EPBC APPROVAL COMPLIANCE REPORTS

In accordance with *Condition 10* of EPBC 2011/6176 for the SEP, by 31 March of each year after the commencement of the action, or as agreed with the Department of the Environment and Energy (DoEE) (now the Department of Climate Change, Energy, the Environment and Water (DCCEEW)), SCPL is required to publish a report addressing compliance with the conditions of EPBC 2011/6176 during the previous calendar year, including implementation of any management documents as specified in the conditions of EPBC 2011/6176.

SCPL commenced the action approved under EPBC 2011/6176 on 4 April 2018. The first annual compliance report was submitted in March 2019. The *Stratford Extension Project (EPBC 2011/6176) Annual Compliance Report 2023*, was submitted to the DCCEEW on 26 March 2024.

*Condition 10* also requires reporting on the implementation of the relevant management documents required in accordance with the conditions of EPBC 2011/6176. This SMC Annual Biodiversity Report provides a review of the implementation of the management measures in the BMP for the annual year ending 31 December 2024. This report is intended to be included as an Appendix of the SMC Annual Review.

## 14 APPENDICES

**Appendix A:** Stratford Mining Complex – Biodiversity Management Plan 2023

**Appendix B:** Wedgetail Project Consulting - 2023 Stratford Biodiversity Offsets Planting Program Report

**Appendix C:** Proposed Revegetation Schedule for the SMC Biodiversity Areas 2023-2026

**Appendix D:** Wedgetail Project Consulting - Stratford Mining Complex 2024 Biodiversity Offsets Strategy Flora Monitoring Report

**Appendix E:** AMBS Ecology & Heritage – Feral Animal Study of the Stratford Mining Complex 2023

**Appendix F:** AMBS Ecology & Heritage – Nest Box Programme for the Stratford Offset and Biodiversity Enhancement Areas, Annual Report for 2024 – December 2024

**Appendix G:** AMBS Ecology & Heritage - SMC Fauna Surveys of the Biodiversity Offset and Biodiversity Enhancement and Rehabilitation Areas 2022 – February 2023

**Appendix H:** Stratford Mining Complex – Offset Weed Action Plan 2024

(Appendices available on request)