ID ECOLOGICAL MANAGEMENT

Report for EnergyAustralia

EPBC Offset Management Plan:
Yallourn Coal Field Re-alignment Project
EPBC 2008/4454

September 2023

Harley Schinagl & Tania Brooker

This report fulfils the requirements of Condition 3 of the approval provided by the Department of Climate Change, Energy, the Environment and Water:

EPBC 2008/4454

Citation

Schinagl, H & Brooker, T (2023), Revised EPBC Offset Management Plan: Yallourn Coal Field Re-alignment Project - EPBC 2008/4454. *ID Ecological Management*, Research, Victoria.

ID Ecological Management
1635 Main Road, Research
www.iddesign.com.au

Disclaimer

Acknowledgements

Paul Metlikovec – Mining Engineer, Mine Services

Sam Lineham – Civil and Environmental Mining Engineer, Mine Services

William Doherty – Consultant, ID Ecological Management

Nicole Noy - Director, ID Ecological Management

Additional contributors to previous versions:

Nadia Cole – Former Manager, ID Ecological Management

Shannon Dwyer – Former Consultant, ID Ecological Management

Kevin Brown – Former Environmental Engineer, EnergyAustralia Yallourn

Version Control

Status	Date issued	Revision type	Reviewed by	Amended by
Draft 1.1	09/05/2011	First Draft – First review	N. Cole	H. Schinagl
Draft 1.2	11/05/2011	Second Draft – Second review	IDLM	H. Schinagl
Draft 1.3	13/05/2011	Third Draft – Client review	K. Brown (Client)	H. Schinagl
Draft 1.4	01/06/2011	Fourth Draft – Final Draft	Client feedback	H. Schinagl
Draft 1.5	11/08/2011	Fifth Draft – Final Amendment	Client feedback	H. Schinagl
Final draft	26/08/2011	Final Draft for authority feedback	Authority feedback	W. Doherty & H. Schinagl
FINAL	15/12/2011	FINAL	K. Brown	-
Amendment 1	04/05/2017	Amendment, reissued	T. Brooker	-
Draft V2.1	25/10/2021	Version 2 - First review	W. Doherty H. Schinagl	T. Brooker
Draft V2.2	25/10/2021	Version 2 - Client review	P. Metlikovec	T. Brooker
Draft V2.3	28/10/2021	Version 2 - Draft for authority feedback	DAWE	T. Brooker
FINAL	13/12/2021	Version 2 - FINAL	DAWE	T. Brooker
FINAL V2.1	16/03/2022	Reference updates - Version 2.1 FINAL		
Draft V3.1	15/02/2023	Version 3 – First review	T. Brooker	H. Schinagl
Draft V3.2	28/02/2023	Version 3 – client review	S. Lineham	T. Brooker
FINAL	21/04/2023	Version 3 - FINAL	DCCEEW	T. Brooker
Draft 4.1	24/07/2023	Version 4 – client review	P. Metlikovec	T. Brooker
FINAL	18/09/2023	Version 4 - FINAL		

Declaration of Accuracy

I declare that:

1. To the best of my knowledge, all the information contained in, or accompanying this Management Plan (EPBC Offset Management Plan: Yallourn Coal Field Re-alignment Project EPBC 2008/4454) is complete, current and correct.

2. I am duly authorised to sign this declaration on behalf of the approval holder.

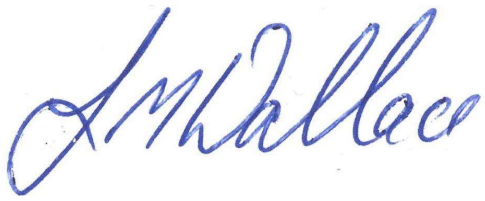
3. I am aware that:

a. Section 490 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence for an approval holder to provide information in response to an approval condition where the person is reckless as to whether the information is false or misleading.

b. Section 491 of the EPBC Act makes it an offence for a person to provide information or documents to specified persons who are known by the person to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth) where the person knows the information or document is false or misleading.

c. The above offences are punishable on conviction by imprisonment, a fine or both.

Signed



_____

Lance Wallace

EnergyAustralia Yallourn

19/09/2023

Contents

Executive Summary

The Commonwealth Government requires EnergyAustralia Yallourn, as part of the Yallourn Coal Field Re-alignment Project, to offset vegetation losses of *Eucalyptus strzeleckii* (Strzelecki Gum) in addition to those offsets required by Victoria's State Government. This is in accordance with the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The details of the offset requirements are included in the approval notice (EPBC 2008/4454).

ID Ecological Management was commissioned by EnergyAustralia Yallourn (EA) to prepare an Offset Management Plan that complies with the objectives of the approval notice and dictates the management of the Strzelecki Gum offsets.

Under the approved development, 523 Strzelecki Gum would be removed. The Commonwealth Government required total Strzelecki Gum revegetation offsets to equate to ten times that being lost under the coal field development, taking into account the offsets required by the Victorian State Government.

Offsets required by the Victorian Government equate to the planting of 2000 Strzelecki Gum and the protection of 1480 remnant trees on the Latrobe and Morwell Rivers. This includes the protection of 26 hectares of remnant vegetation containing Strzelecki Gum on the Morwell River. The Commonwealth Government thus required an additional 3230 Strzelecki Gum to be planted to fulfil the 10:1 offset requirement. Offsets commenced implementation in 2011 and through the 2017 revision under this 'Original Offset Plan'.

On the 10th of June 2021 a sudden and significant high-flow event impacted EA's Morwell River Diversion (MRD). Investigations were subsequently carried out whereby significant cracking in the MRD was discovered. Following a geotechnical investigation assessing the scope of the damage, EA proposed a temporary coffer dam upstream in an undisturbed part of the Morwell River and connection of pipeline to divert water flows around this short, damaged section of the MRD so that the repairs could be affected. These works are known as the MRD Onsite Diversion project and the required change in EPBC Act offsets resulted in a revision to this plan (dated 2021)The 2021 revision adhered to the guidance of the Department of Climate Change, Energy, the Environment and Water (the Department) which included a new set of requirements.

Once emergency measures relating to the Onsite Diversion were complete, further investigations were undertaken (circa 2022) which identified the potential for additional geotechnical work to be undertaken to ensure the sites long-term stability now, and post-mining. Because the exact scope of remedial works is yet to be determined, it was considered appropriate to move all of the EPBC offsets in the affected section to give greater flexibility in implementing and possible remedial works, should they go ahead. This includes 60 protected remnant Strzelecki Gums and a recruitment zone planned to accommodate 1,020 Strzelecki Gums (plus additional accompanying species) which will all need to have alternative offsets sourced.

This updated offset plan proposes to change some aspects of the Original Offset Plan. These include:

- Removal of offsets north (downstream) of the Morwell River coffer dam (Block 29c and parts of Blocks 28& 29a) so that implementation of remedial works can be affected unincumbered.
- Amendment to the Morwell West Drain Diversion (MWDD) revegetation planting requirements. The 2011 Offset Plan displayed concept drawings for the MWDD channel which included a fully revegetated channel. Due to the flood capacity of the MWDD, the planting areas were moved out of the drainage line to higher ground, with these revised areas protected on title and amended in the 2017 Offset Plan revision. However, it has since become evident that Strzelecki Gums need additional space to meet the target planting numbers than that detailed in the Original Offset Plan. Additional plantings not able to be accommodated within the revised area of the MWDD are proposed to be accommodated in a new offset location, Block 29d on the Morwell River.
- Protection mechanisms were already established during the period of the Original Offset Plan (2017) however this version has variations to the boundaries of the area being protected (such as including Block 29d, 32 and f). Therefore, amendments to the protection mechanisms will be required.

This plan outlines the management commitments, threat mitigation, monitoring, reporting and success indicators required to achieve the required offsets.

The resulting gain will achieve a net increase of 6328 individual Strzelecki Gums (1601 protected and 5250 planted, less 523 lost) and 113.2 hectares of Strzelecki Gum habitat.

1 Introduction

1.1 Project Background

1.1.1 The Original Offset Plan

Indigenous Design Environmental Management has been commissioned by EnergyAustralia, Yallourn to revise the EPBC Offset Management Plan. The EPBC Offset Management Plan has three previous versions, detailed below:

- DSEWPC Offset Management Plan – Yallourn Coal Field Re-alignment Project (Schinagl H. , 2011). This is the first approved version.
- EPBC Offset Management Plan Yallourn Coal Field Re-alignment Project (Schinagl H. , 2017). This version included updates to revegetation areas.
- Revised EPBC Offset Management Plan: Yallourn Coal Field Re-alignment Project EPBC 2008/4454 (Schinagl & Brooker, 2021). This version included amendments to account for the Morwell Upstream project.

The purpose of this revision is to change EPBC offset locations on site to allow future geotechnical improvements to occur.

Eucalyptus Strzeleckii (Strzelecki Gum) was (and still is) listed as 'Vulnerable' under the *Environmental Protection and Biodiversity Conservation Act, 1999* (EPBC Act). The Yallourn Coal Field Re-alignment Project required the removal of 523 Strzelecki Gums which was then referred to the Department ofClimate Change, Energy, the Environment and Water(DCCEEW) for assessment under the EPBC Act. The removal of the trees was approved subject to conditions set forth by the Approval Notice.

The first iteration of this offset plan (the "Original Offset Plan") for this action set forth management actions to comply with Condition 3 of the approval (EPBC 2008/4454). The chart in Section 2 of that report sets out each condition of the EPBC approval and how the plan achieves that requirement.

This equated to a total of 5,230 (10:1) revegetation offset of losses plus the protection of remnant trees.

At the time, Victoria was subject to the requirements of *Victoria's Native Vegetation Management: A Framework for Action* (the Framework). As part of the Yallourn Coal Field Re-alignment Project, the Framework required offsets equivalent to the revegetation of 2,000 Strzelecki Gums and the protection of a further 1,480 mature, remnant trees (Cole and Dwyer, 2009) (among other offset requirements not related to Strzelecki Gums). The original offset plan recognised these State required offsets and proposed the planting of a further 3,230 to meet the 10:1 target of 5,230 Strzelecki Gum offsets.

Based on Condition 2 of the approval notice, the offsets were to be placed under a legally binding conservation covenant to protect these areas in perpetuity.

1.1.2 The Need to Update the Offset Plan

On the 10th of June 2021 a sudden and significant high-flow event impacted EA's Morwell River Diversion (MRD). Investigations were carried out on the 11th of June whereby significant cracking in the MRD was discovered. Following a geotechnical investigation assessing the scope of the damage, EA proposed a temporary coffer dam upstream in an undisturbed part of the Morwell River and connection of pipeline to divert water flows around this short, damaged section of the MRD so that the repairs could be affected. These works are known as the MRD Onsite Diversion project and occured within sites that were previously providing Strzelecki Gum offsets for the original EPBC Act approval.

Because of this impact on the existing EPBC offset site, a variation to the requirements of the originally approved action was required. The revision adhered to the guidance of the Department of Climate Change, Energy, the Environment and Water (the Department) which included new requirements.

Once emergency measures relating to the Onsite Diversion were complete, further investigations were undertaken (circa 2022) which identified the potential for additional geotechnical work to be undertaken to ensure the sites long-term stability. Because the exact scope of remedial works is yet to be determined, it was considered appropriate to move all of the EPBC offsets in the affected section to give greater flexibility in implementing the remedial works, should they go ahead (Block 29c and parts of Block 28 & 29a). This includes 60 protected Strzelecki Gums and a recruitment zone planned to accommodate 1,020 Strzelecki Gums (plus additional accompanying species) which will all need to have alternative offsets sourced. This adjustment to the EPBC offsets is the trigger for this revision of the Plan.

In early 2023, a desktop and field survey identified two suitable replacements for these offsets:

- Small sections of Blocks 29b and 29a not previously included in the offset area and Block 32, which collectively contain 181 remnant Strzelecki Gums, more than the 60 required to be replaced, and
- Block f, which is 20.7 hectares of cleared agricultural land, highly suitable for Strzelecki Gums which can accommodate the 1,020 Strzelecki Gum revegetation replacements.

This plan details the original concepts of the offsets, as well as this alteration.

1.2 Objectives

The objectives of this Offset Plan are to provide details of the clearing and offset site to the satisfaction of the Department and any EPBC Act approval requirements which may be applied for residual impacts to Strzelecki Gum for the Project. The Offset Plan will provide direction on the conservation and enhancement of remnant Strzelecki Gum and associated habitat within the offset site and outline a revegetation program that establishes and extends the species throughout the more degraded areas of the site.

The Offset Plan includes the following:

- Location of the offset site;
- Type of offset to be provided;
- Description of management actions to protect and improve remnant native vegetation, Strzelecki Gums and associated habitat within the site;
- Description of management actions to revegetate degraded areas of the site with Strzelecki Gum plants;
- Detail on 'security' arrangements;
- A map that identifies the offset site including identification of areas of remnant vegetation, existing Strzelecki Gum individuals and areas suitable for revegetation;
- A timetable of management actions, targets and reporting requirements; and
- Monitoring and evaluation schedule.

Table 1 & Table 2 provide a response to the specific requirements determined by the Department in the Approval Notice and Guidance on the development of an OMP (DCCEEW, 2014).

Table 1 - DCCEEW Approval Conditions and Related Section of the OMP

Approval condition	Related Section
3. To offset the impacts to *Eucalyptus strzeleckii*, the person taking the action must, before commencement of operations, obtain the **Minister's** approval of an Offset Management Plan for the **offset areas**. The Offset Management Plan must include details of:	
a. management actions to: i. Plant no less than 2020 *Eucalyptus strzeleckii* individuals (seedling stock) in the area of EnergyAustralia Yallourn's (formerly known as TRUenergy Yallourn) mining licence along the Latrobe River; ii. Plant no less than 1490 *Eucalyptus Strzelecki* individuals in the area of EnergyAustralia Yallounrn's mining license along the Morwell River; iii. Plant no less than 1740 *Eucalyptus strzeleckii* individuals in the Morwell West Drain diversion; and iv. Protect no less than 1480 existing *Eucalyptus strzeleckii* individuals.	*Sections 3-3.2* *Maps 1, 3 &4* *Appendix 1 - 3*
b. the desired outcomes/objectives of implementing the plan;	*Sections 4* *Section 5.1*
c. the location, **protected matters** and boundaries for each offset area, through maps and / or textual descriptions as well as accompanying **shapefiles**;	*Maps 1 and 4*
d. details on the mechanism being implemented for protection in perpetuity of the **offset areas** and the mechanism of management of areas in Appendix 1.	*Section 5.2*
e. management actions for the long-term protection of the *Eucalyptus strzeleckii*;	*Section 5*

Approval condition	Related Section
f. the timing, responsibilities and performance criteria for such actions;	*Section 5.9* *Table 11*
g. the development and implementation of a monitoring program;	*Section 5.8* *Table 10*
h. a process to submit reports annually, within 20 business days prior to each anniversary of the commencement of operations, to the department with the offset area management actions undertaken, the outcome of the management actions and the need for improvement;	*Section 6*
i. a description of the potential risks to successful management and rehabilitation in the **offset areas**, and a description of the contingency measures that would be implemented to mitigate these risks; and	*Section 7*
j. details of parties responsible for monitoring, reviewing and implementing the plan.	*Section 5.2* *Table 7*
9. The person taking the action may, at any time, apply to the **Minister** for a variation to the Offset Management Plan by submitting an application in accordance with the requirements of section 143A of the **EPBC Act**. If the **Minister** approves a revised Offset Management Plan then the approval holder must implement the revised Offset Management Plan.	

Table 2 - EPBC Offset Environmental Management Plan Requirements and corresponding sections of the plan

Guidance	Sections/pages of the doc.
1. The plan submitted as final for approval includes a **Declaration of Accuracy** signed by the approval holder.	*Page iii*
2. The plan includes an **executive summary** which states the relevant EPBC Act approval conditions and outlines the purpose of the plan and the primary strategies to manage key risks and achieve the plan's objectives.	*Page 1*
3. The plan includes a table containing **EPBC Act approval conditions** that specify the content of the plan (can be in an Appendix) and section and page numbers that address those content requirements.	*Tables 1 & 2*
4. The plan **outlines the project** and **impacts** and includes the location and nature of project activities and a schedule of project commencement, construction and operation phases.	*Section 2*
5. The plan describes the nature and location of the **offset areas**.	*Section 3* *Maps 1 & 3*
6. The plan includes **completion criteria and/or performance targets** that evidence protection of the Strzelecki Gum. For the purpose of the plan: a) completion criteria are longer term time-bound values, specified for measurable parameters, that if attained and maintained ensure the plan's environmental objectives are achieved (***these are establishment criteria***); and b) performance targets are time-bound short and medium term targets, for management interventions and environmental condition, that are used to monitor, evaluate, review and improve the effectiveness of the plan to offset impacts (***these are planting and protection criteria***).	*Section 4 & 5*

Guidance	Sections/pages of the doc.
7. The plan **assesses the risk** of failure to achieve the plan's performance targets and/or completion criteria. To this end the plan: a) identifies events or circumstances that prejudice attainment/maintenance of performance targets and/or completion criteria. The events or circumstances include scientific/ecological uncertainty, stochastic events and legal/land use planning factors that may represent risks; and b) includes a qualitative assessment of the likelihood and consequence of those events or circumstances, and the residual risk of failure to achieve those criteria due to identified events or circumstances (*assuming management measures will be implemented*).	*Section 7*
8. The plan **manages the risk** of failure by: a) specifying management actions to attain/maintain the completion criteria and/or performance targets; b) enhancing monitoring and management measures for high risk events or circumstances, thereby providing a 'margin of safety' to detect, avoid or mitigate the likelihood and/or consequences of the event or circumstance; c) specifying measurable events or circumstances (management triggers) that detect actual or potential issues in a timely manner to avoid, minimise or mitigate the risks/consequences; d) ensuring the monitoring program includes activities to detect management triggers, and explains how monitoring activities may inform the selection and implementation of corrective actions; and e) specifying effective and appropriate corrective actions that may be implemented if a management trigger is realised.	*Section 5 & 7* *Tables 10 & 11*
9. The plan includes **management measures** that will establish and protect the Strzelecki Gum. Each measure: a) has timeframes for implementation; b) is described sufficiently to avoid ambiguity and to inform plan implementation; and c) is related to attaining/maintaining completion criteria and/or interim performance targets.	*Section 5* *Table 11*
10. The plan includes an **adaptive implementation program** to ensure performance targets and completion criteria are achieved. The plan therefore includes arrangements for: a) coordinating, scheduling and/or triggering monitoring and reporting activities; b) periodically reviewing risks; c) addressing the consequences of significant environmental incidents (planned and unanticipated); and d) **reviewing the plan** under the following circumstances: ➢ performance reports indicate targets/completion criteria may not be attained/maintained; or ➢ following significant environmental incidents/events.	*Section 5.7 & 5.9*
11. The plan outlines the **purpose of monitoring** and its functional relationship to operational decisions, including: a) to provide for 'early-control' (that management actions are effective) and 'early warning' (corrective actions are required) functions, to inform timely corrective actions; and b) to demonstrate the management objectives for protected matters have been, or are likely to, be met.	*Section 5.8*
12. The plan describes the **monitoring methods** that will be implemented, and: a) describes the sampling strategy and statistical analyses to be employed; b) justifies the sampling strategy/monitoring methods, including through capacity to demonstrate attainment of performance targets and/or completion criteria; and c) commits to engage appropriately qualified experts to design and conduct monitoring and survey activities, and analyse monitoring results.	*Section 5.8* *Table 10*

Guidance	Sections/pages of the doc.
13. The plan includes commitments to **report** on plan implementation. This is achieved by: a) identifying relevant reporting obligations under the EPBC Act approval; b) specifying how plan implementation will be reported in accordance with those obligations; c) including a reporting template specifying key risk management, management measure, monitoring and adaptive implementation activities/outcomes for the reporting period; and d) a schedule and triggers for reporting types (e.g. annual compliance, incident, non-compliance, contingency).	*Section 6* *Appendix 4*
14. Maps, **plans, figures, images** and **sections** used in the plan: a) show the offset area in a local and regional context; b) are clearly legible, including fine print, when printed on A4; c) include appropriate standard metric scales to represent the information (for example 1:100 000). Datum – plans and cross sections refer to AHD; d) have metric measurements, graphic bar scales, local grid lines and standards and north point or orientation of sections (include a key) are used throughout; and e) include title blocks in the lower right hand corner with the following information: EPBC number and project name, title and number of the plan, author, scale, date, source and date of data.	*Maps 1 - 4*
15. The plan uses the terms '**will'** and **'must'** when committing to actions, instead of 'where possible', 'as required', 'to the greatest extent possible', 'should' or 'may'.	*All*
16. The **footer or header** of each page of the plan states the name of the project, EPBC #, the date of the plan and sequential page numbering.	*All*
17. The plan includes a **glossary of terms** comprised of acronyms, terms open to different interpretations, not in common use, technical or defined in the approval conditions.	*Page 46*
18. The plan includes risk assessment/management, implementation and monitoring schedules (see below).	*Sections 5.8.3, 5.9 & 7* *Tables 10, 11 & 14*

2 Clearing Site

This section provides details of the clearing and offset sites, including an assessment of the offset sites suitability to offset the residual impact for the removal of 523 Strzelecki Gums.

2.1 Site Impacts

The approved impacts are the result of the development of the Yallourn Coal Field Re-alignment Project option 7a (Map 2 – Eucalyptus strzeleckii distribution through MWD environs). A total of 23.95 hectares (ha) of remnant vegetation consisting of five different Ecological Vegetation Classes (EVCs) will be lost as a result of the realignment of the mine from the previously approved plan (Cole, et al., 2008)

The entirety of vegetation losses are detailed in the Ecological Assessment (Cole *et al.* 2008). All vegetation losses are also offset under State requirements and are detailed in the Offset Plan (Cole & Dwyer, 2009). These offsets are additional to earlier approved offsets, as detailed in the existing Yallourn Mine Conservation Management Plan (Yallourn Energy, 2002; Noy & Owen, 2005).

The clearing site is summarised in Table 3.

Table 3 - Clearing site details

Landowner of clearing site:	*EnergyAustralia Yallourn (previously TRUenergy).*
Location and address of clearing site:	*Maryvale, Victoria*
Local Government Area:	*Latrobe City Council*
Catchment Management Authority:	*West Gippsland Catchment Management Authority*
Proponent undertaking works	*EnergyAustralia Yallourn*
EPBC Reference No.	*EPBC 2008/4454*

2.2 Site Description

Of the 23.95 ha of remnant vegetation planned to be removed, 12 hectares is considered to be Strzelecki Gum habitat (Cole, et al., 2008). The population that is planned to be removed is isolated in a local context as it is bordered by the East Field Extension Coal Mine approximately 700 metres to the north and grazing land immediately to the south. This patch of remnant bush is contiguous with other areas of remnant vegetation adjacent to the north east that will not be removed and also contain populations of Strzelecki Gum. These areas are currently managed for the purposes of conservation.

Within the loss area there are 523 Strzelecki Gum individuals that will be removed. This comprises:

- 480 ‘small’ trees;
- 37 ‘medium’ trees;
- 5 ‘large’ trees; and
- 1 ‘very large’ tree.

Size categories are based on the definitions in the Framework, which was the relevant guideline at the time.

The Ecological Assessment (Cole *et al.* 2008) states that:

> *"[Strzelecki Gum] predominately occur within the Swampy Riparian Complex and Riparian Forest EVCs however are also present in small numbers within the Plains Grassy Woodland and Plains Grassy Forest EVCs."*

This report goes on to discuss the quality of the Strzelecki Gum habitat as being "generally high quality" with "evidence of past disturbance" along the western edge of the habitat. The population is considered to be recruiting with saplings of 2-5 metres in height common.

Section 3.1.2 of the Ecological Assessment (Cole, et al., 2008) describes the population in more detail. Section 4.2 discusses the potential impacts of the Morwell West Drain Diversion on significant flora more broadly.

Map 2 - Eucalyptus strzeleckii distribution through MWD environs, displays the loss area and surrounding vegetation. Photos of the loss area habitat can also be found in Photos section of this plan.

3 Offset Site

The following sections describe the existing condition of the offset site and summarises the assessment of its suitability against the Commonwealth offset policy requirements.

3.1 Site Descriptions

The offsets are located on the Yallourn site and include a combination of Crown Land and private land parcels, which are summarised in Table 4.

Table 4 - Offset site details

Land owner of Offset Site	*EnergyAustralia Yallourn (previously TRUenergy) and Crown Land*
Land manager of Offset Site	*EnergyAustralia Yallourn*
Type of Offset	*Direct Offset*
Location and Address of Offset Site	*Yallourn, Victoria*
Area of Offset Site	*113.2 Hectares*
Allotment / Plan Subdivision	*See Appendix 1*
Parish	*Narracan, Maryvale & Tanjil East*
Local Government Area	*Latrobe City*
Catchment Management Area	*West Gippsland*
Bioregion	*Gippsland Plain*

The offsets can be classified into three main areas. These include:

- The Latrobe River;
- The Morwell River; and
- The Morwell West Drain Diversion (MWDD).

The offset areas and all block numbers are shown in Map 1 – Yallourn Mine Conservation Management Plan, including EPBC offset areas.

Offsets required to be achieved are listed in Section 5.

3.1.1 Latrobe River

CMP Nomenclature

Blocks f, 44, 44a and 44b

Offset Significance

The offset areas surrounding the Latrobe River include both remnant protection and revegetation of Strzelecki Gums. These offsets also form part of the requirements for the State Government approval.

Description

The offsets in this area include a contiguous patch of remnant vegetation on both the north and south side of the Latrobe River (Block 44), two smaller portions of remnant trees further east on the floodplain (Blocks 44a and b) and a low-lying area of pasture further east on the south side of the Latrobe River (Block f).

Block 44 is part of a much larger patch of remnant vegetation measuring approximately 50 ha in size. The vegetation is predominately *Riparian Forest* EVC with some small niches of other Riparian EVCs. *Riparian Forest* is considered vulnerable in Victoria and much of the vegetation is considered to be very high significance.

On the north side of the river, the majority of the canopy is made up of *Eucalyptus viminalis* (Manna Gum) with only a light scattering of Strzelecki Gum found throughout. These trees are large and well developed offering abundant habitat. The middle storey is dense with a complete cover of native shrubs and recruiting canopy trees ranging from *Olearia lirata* (Snowy Daisy Bush), *Leptospermum continentale* (Prickly Tea-tree), *Myrsine howittiana* (Muttonwood) and *Acacia melanoxylon* (Blackwood). The ground storey is diverse in grasses and herbs commonly hosting *Poa labillardierei* (Large Tussock Grass), *Urtica incisa* (Scrub Nettle) and *Cyperus lucidus* (Leafy Flat-sedge). Previously abundant infestations of the exotic *Tradescantia fluminensis* (Trad) have largely been controlled during previous offset management work.

The south side of the river is significantly more disturbed with past management allowing grazing almost all the way to the river's edge. However, since the site was first enacted as an offset site, it has been fenced off from grazing, received extensive weed control and revegetation. Remnant canopy species composition is similar to the north side however the trees are often a little smaller (in diameter at breast height). The middle and ground storeys are present, but somewhat under represented. These are often similar to the north side with a tendency for shrubs more tolerable of disturbance and grazing such as Prickly Tea-tree and *Kunzea ericoides* (Burgan). There is a dominance of exotic grasses such as *Cenchrus clandestinus* (Kikuyu) and *Agrostis capillaris* (Brown-top Bent) dominant in many areas however species such as Large Tussock Grass and *Lepidosperma laterale* (Pithy Sword-sedge) persist closer to the river. This is the site for the revegetation of 1000 Strzelecki Gum and associated trees and shrubs to represent a *Riparian Forest* EVC.

The river that separates these two patches (the Latrobe River) is broad and shallow and averages approximately 30 metres in width. The banks above the low water mark are alluvial with infrequent clusters of sedges but more commonly dominated by herbs. The most dominant tree species *Salix fragilis* (Crack Willow) overhangs a sparser cover of *Melaleuca ericifolia* (Swamp Paperbark). The establishment of these trees is met with the high water mark and a steep incline towards the top of the bank.

Block 44a is a single, scattered Strzelecki Gum protected by fencing and surrounded by grazing land. Block 44b is a small group of nine remnant Strzelecki Gum. This block is bordered to the north by grazing land and to the south by a mine vehicle track and an indigenous screen planting.

Block f is a low-lying pasture set-back by about 30 metres from the south side of the Latrobe River dominated by exotic grasses interspersed with depressions and billabongs hosting native and exotic sedges, rushes and herbs. The site has a distinct absence of woody plants owing to its agricultural history. The pre-1750 EVC of the site is *Floodplain Riparian Woodland* which is considered endangered in Victoria, though extant native vegetation on the site is limited. Strzelecki Gums occurring in adjacent land parcels, both upstream and downstream of Block f highlight the sites suitability for the species.

Environmental Benefit

- Protection of remnant 74 Strzelecki Gum;
- Revegetation of 2020 Strzelecki Gum;
- Revegetation of 2517 other plants from a suite of species to represent *Riparian Forest* and *Floodplain Riparian Woodland* EVCs;
- Protection and security of known *Aquila audax* (Wedge-tailed Eagle) habitat; and
- Protection of remnant bush of very high significance.

3.1.2 Morwell River

CMP Nomenclature

Blocks h, 28, 29a, 29b, 29d (newly created) and 32.

Offset Significance

The offset areas surrounding the Morwell River include protection of Strzelecki Gum remnant trees and patches as well as a revegetation area for this species. These offsets also form part of the requirements for the State Government approval.

Description

The Morwell River corridor includes a combination of remnant vegetation, and remnant and man-made wetlands on both the east and west sides of the Morwell River. Riparian vegetation, both planted and remnant, maintain a continuous vegetative cover from the Princes Freeway in the south to the Morwell River Diversion (MRD) in the north. This spans a number of land tenures and equates to approximately 175 ha. South of the freeway, this corridor continues through a combination of other revegetation and conservation projects on the Morwell River and its tributaries (Eel-hole Creek and Waterhole Creek) meaning the entirety of this corridor extends over 10 kilometres from the southern tip of Yallourn's Morwell River Diversion.

The largest portion of remnant vegetation along this corridor is Block 28 which is a variably wide strip of riparian vegetation on the eastern side of the Morwell River, immediately north of Morwell Bridge Road. The eastern border of this patch has undergone a variety of land uses in the past (quarrying, grazing) which has impacted on the site with weed invasion from species such as *Zantedeschia aethiopica* (Arum Lily), *Rubus fruticosus* spp. agg. (Blackberry), and *Genista linifolia* (Flax-leaved Broom). Despite the edge effect from weed invasion the site remains, for the most part, intact and of very high quality. Large remnant and recruiting

Strzelecki Gum are found nearer to the river accompanied by Manna Gum, however these trees are predominately excluded from areas of permanently inundated swamp. Mild escarpments and gently rising hillsides offer some variability throughout this vegetation to the common floodplain type structure of much of the vegetation. These gradients have a greater impact further from the river where it rises from a mixture of *Riparian Forest* and *Swampy Riparian Complex* EVCs to *Plains Grassy Forest*.

The middle storey is moderately to extremely dense dependent on the land formation and contains a rich diversity of understorey trees and shrubs such as Muttonwood, *Melicytus dentatus* (Tree Violet), *Pomaderris aspera* (Hazel Pomaderris) and Swamp Paperbark. The ground storey is mostly intact with only a few areas of exotic grass cover outcompeting indigenous grasses and forbs. This patch forms part of current State Government vegetation offsets.

Scattered, remnant Strzelecki Gum exist along much of this corridor (Blocks 29a and b) and are currently being managed to improve their health and regeneration capabilities by revegetating around them. Prior to revegetation the sites consisted of thick, dense covers of *Phalaris arundinacea* (Reed Canary Grass) which matted into a dense floodplain pasture, making regeneration of indigenous species very unlikely without intervention. Revegetation efforts aim to combat the Reed Canary Grass and mimic the remnant vegetation found elsewhere along this corridor and in the greater landscape. Many areas of revegetation are now in excess of fifteen years old and are becoming self sustainable. These revegetation areas form part of current State Government vegetation offsets.

Block 29d, is very similar to 29b in remnant structure and site management. It is a former grazing paddock recently added as an offset site, with revegetation works yet to commence.

Block 32 is a small remnant protruding westward from the Morwell River corridor. It features some very low-lying depressions that are seasonally inundated and dominated by the exotic Reed Canary Grass, as well as some slightly more elevated terrestrial zones hosting a dominant stand of Strzelecki Gums and native understorey. The Strzelecki Gums in this area range from new recruits (owing to the sites prior management) to very large, old individuals. The terrestrial zones also host a supportive array of Swamp Paperbarks, Muttonwood, and Tree Violet. The low-lying depressions, though dominated by exotic species also support *Persicaria* sp. (Knotweed), *Bolboschoenus caldwellii* (Marsh Club-rush) and *Phragmites australis* (Common Reed).

Some smaller, isolated patches of remnant vegetation along the floodplain have now been incorporated into larger revegetation projects aimed at the development of the wetlands (Blocks g and h). These form the basis of prior and current vegetation offsets for the State Government.

Environmental Benefit

- Protection of 1527 remnant Strzelecki Gum;
- Protection of approximately 39.4 hectares of remnant vegetation;
- Revegetation of 1490 Strzelecki Gum;

- Revegetation of 1353 other plants from a suite of species to represent *Swampy Riparian Complex* EVC;
- Final crucial link for the Morwell River corridor to the Latrobe River;
- Protection and security of known Wedge-tailed Eagle and *Haliaeetus leucogaster* (White-bellied Sea Eagle) habitat. Also known habitat of a range of other rare and threatened species (both local and state significance); and
- Protection of remnant bush of very high significance.

3.1.3 Morwell West Drain Diversion

CMP Nomenclature

Blocks 50a, 50b and 50c.

Offset Significance

The offset areas of the Morwell West Drain Diversion include the revegetation of a man-made channel and other associated ponds and lagoons as Strzelecki Gum habitat.

Description

The Morwell West Drain currently flows north from Latrobe Road towards the planned Maryvale Field Mine. The Morwell West Drain Diversion (MWDD) is planned to divert water westward toward the Block g wetland and subsequently into the Morwell River. The diversion begins just west of Latrobe Road where some ponds were created and planted to manage local run off from local industry in 1997. This area is now known as Block 50a and contains a suite of planted canopy trees and larger shrubs including Strzelecki Gum, *Eucalyptus ovata* (Swamp Gum), *Acacia dealbata* (Silver Wattle), Tree Violet, and Hazel Pomaderris. Some native, but non-indigenous species were also planted within this area but make up less than half of the areas vegetated cover. Some of these species include *Acacia howittii* (Sticky Wattle), *Callistemon* spp. (Callistemon's) and *Leptospermum grandiflorum* (Mountain Tea-tree) but for the most part, these have been removed during the previous offset management period (prior to this revision).

The MWDD spanning from Block 50a to the wetlands (known as Block 50b) was constructed around 2011. The original offset plan displayed concept drawings for the channel which included a fully revegetated channel. Due to the flood capacity of the MWDD, the planting areas were moved out of the drainage line to higher ground (EnergyAustralia, 2021). While the plantings on higher ground have been protected on title, it has since become evident that Strzelecki Gums need additional space to meet the target numbers which were included in the original Offset Plan, and these are proposed to be accommodated in Block 29d on the Morwell River. The drain traverses grazing land with no occurrence of indigenous flora species. The drain passes through an area that is believed to have hosted *Plains Grassy Woodland* EVC (DEECA, 2021).

Although geographically more closely related to the Morwell River environs (see Map 1 – Yallourn Mine Conservation Management Plan, including EPBC offset areas), the development

of Block 50c is considered a separate project to that associated with the Morwell River corridor. This is for two reasons:

- The Morwell River corridor contains State offsets and current Commonwealth offsets pertaining to this plan; and
- Block 50c (and all other parts of the MWDD) contains offsets only for the Commonwealth level pertaining to this plan.

Block 50c is a low lying drainage line that drains northward into the bottom tier of Block g wetland. It was previously used for grazing with a largely exotic pasture cover, however some more persistent indigenous species were still present in the wetter soaks including Common Reed, and *Juncus* spp. (Rushes). Reed Canary Grass is abundant as well as scattered *Cirsium vulgare* (Spear Thistle).

During the previous offset period, the MWDD site was fenced off and extensively revegetated with Strzelecki Gums and associated understorey. These plantings are currently establishing.

Environmental Benefit

- Revegetation of at least 1740 Strzelecki Gum;
- Revegetation of areas of the endangered *Plains Grass Woodland* EVC outside of the MWDD channel;
- Revegetation using a number of other rare and threatened flora species including, but not limited to, *Eucalyptus yarraensis* (Yarra Gum) and *Eucalyptus fulgens* (Lustrous Scent-bark); and
- Contributes to the already expansive and contiguous Morwell River vegetation corridor.

Table 5 summarises the major environmental benefits for each offset area.

3.2 Existing Offset Arrangements

The offsets occur on both Crown Land and private land and are all managed by EnergyAustralia Yallourn. There are existing offset arrangements in place on site (see Section 4.5), however these were approved and pertain to the original offset plan.

Table 5 - Summary of environmental benefits for each offset area

	Strzelecki Gum to be planted	Remnant Strzelecki Gum to be protected	Strzelecki Gum habitat to be created/protected (ha)*	Total size of contiguous patch (estimate) (ha)	Other attributes
Latrobe River	2020	74	41.0	70.7	• Protection of known Wedge-tailed Eagle habitat; • Subsequent protection of bush considered very high significance; and • Revegetation of *Floodplain Riparian Woodland* (endangered) EVC.
Morwell River	1490	1527	48.6	196.7¤	• Protection of known Wedge-tailed Eagle and White-bellied Sea Eagle habitat; • Final crucial link of the Morwell and Latrobe River corridors; and • Protection of bush considered very high significance.
MWDD	1740	-	23.7		• Revegetation of other rare and threatened plant species; and • Revegetation of *Plains Grassy Woodland* (endangered) EVC.
Total	**5250**	**1601#**	**113.2***		

* This is based on the size of habitat that Strzelecki Gum is known to occupy once this plan is implemented and placed under an increased on-title security (consistent with the offset shapefiles).
¤ This is estimated from the existing 173 ha associated with the Morwell River corridor and the addition of 23.7 ha of the MWDD.
1480 required in total, additional 121 protected

4 Offset Environmental Gains

Map 1 - Yallourn Mine Conservation Management Plan, including EPBC offset areas highlights the offset areas. This includes all planting and protection requirements at the three sites described in Section 3.1.

Table 6 summarises the total gross and net gain of the entire offset plan as required by both State and Commonwealth Governments.

Table 6 - Summary of Government requirements and net environmental outcomes

		Strzelecki Gum Individuals	Area of Strzelecki Gum habitat (ha)
LOSSES		**523**	**12**
Gain from State requirements	*Planted*	2020	80.5
	Remnants Protected	1480	
Additional gain from Commonwealth requirements	*Planted*	3230	32.7
	Remnants Protected	121	
TOTAL GROSS GAIN		**6851**	**113.2**
TOTAL NET GAIN		**6328**	**101.2**

To achieve this calculable gain, landscape wide benefits will be achieved as discussed in the following points.

4.1 Corridors and Linkages

The loss of Strzelecki Gum from the previous course of the Morwell West Drain and its subsequent offset on the Latrobe and Morwell Rivers will help develop and complete habitat corridors that already exist from remnants or prior offset requirements along these rivers.

The Morwell River remnant (Block 28) is a nationally significant site and contains one of the best representations of *Riparian Forest* EVC in the local region (Cole & Dwyer, 2009). This offset will link isolated remnant trees found elsewhere on the floodplain to this remnant via revegetation. The linkage of the MWDD with this corridor will result in the contiguous link of remnant vegetation north of the Princes Freeway.

Block 29d is located on the western side of the Morwell River, and is 9 hectares in size, which will enlarge and enhance the existing Morwell River habitat corridor. This revegetation block includes a significantly sized former grazing paddock, ensuring that the vast majority of the western floodplain north of the Morwell River Road bridge and south of the Morwell River diversion will be revegetated with native vegetation. Revegetation efforts will mimic the adjacent revegetation efforts for CMP block 29a creating a significant habitat corridor for the western banks of the Morwell River.

The newly added Block f is located in the northeastern corner of the Yallourn site. It is at the eastern end (downstream) of the Latrobe River on the southern bank and is 20.7 hectares in

size. Previously utilised for grazing, the revegetation of the site will extend the corridor of native vegetation along the Latrobe River into a region that is currently extensively utilised for agriculture. The sites size, shape and accompanying riparian and wetland vegetation will also make it a high-quality refuge for flora and fauna in the area.

4.2 Revegetation of Cleared Land

The offsets detailed in this plan will result in the revegetation of approximately 64.1 hectares of previously cleared land. Nine hectares of this will occur on the Morwell River floodplain (Block 29d) where most indigenous vegetation is outcompeted by a locally problematic floodplain weed, Reed Canary Grass. Only scattered, large, old, remnant Strzelecki Gum exist in these areas and will be incorporated into the Morwell River corridor by this effort (as discussed in Section 5.1).

Similarly, the south side of the Latrobe River has suffered severely from historic land use and 31.4 hectares of this is to be revegetated. This will help link the south side of the Latrobe River with known populations of significant fauna to the north.

The MWDD has resulted in the revegetation of land that was currently completely cleared and equates to 16.5 hectares. This revegetation effort was commenced during the period of the original offset plan. This land passes through an area that is mapped as having a Pre 1750 EVC of *Plains Grassy Woodland* EVC (DEECA, 2021) which is considered endangered in Victoria.

4.3 Managing Pest Plants and Animals

Strzelecki Gum individuals, communities and habitat will all benefit from an increase in weed control which should result in not only the net increase of plants from revegetation, but a secondary increase in recruits. For example, Reed Canary Grass is a major inhibitor of Strzelecki Gum recruitment on the Morwell River floodplain. The management actions of revegetation, maintenance of these plants and associated high threat weed control will significantly reduce the cover of Reed Canary Grass and should promote natural regeneration of indigenous species including Strzelecki Gum.

Pest animal control on Yallourn land is integrated with all types of land use and is prioritised by risk to environmental values (e.g. threat to rare or threatened plants, or vegetation communities), agricultural values (e.g. threat to livestock or improved pasture) and capital investment (e.g. threat to revegetation or rehabilitated areas). The outcome of this offset will see this program extend, not only to existing areas of Strzelecki Gum habitat which it currently encompasses, but to areas planned to be revegetated or constructed as Strzelecki Gum habitat. This will have a flow on benefit to adjoining agricultural land, rivers, roadsides, and landholders.

These actions will have a net benefit to the population of Strzelecki Gum in the region and is a major priority of the National Recovery Plan (Carter, 2006).

Specific actions relating to the management of pest plants and animals will be described in the following sections of the report.

4.4 Local Amenity

There will be obvious aesthetic benefits to come from the revegetation of sections of the Morwell and Latrobe Rivers however, the most significant benefit will be that of the MWDD. The plantings will provide significant visual, dust and noise suppression to the western side of the township of Morwell and the residents of that area. Although these factors have already been considered and mitigated by other environmental strategies, this additional requirement will benefit these aesthetics further.

4.5 Increasing Security/Protection

Not only will the Strzelecki Gum offsets be protected by State and Commonwealth law as a vulnerable species, but the offsets will be protected in perpetuity by a combination of Section 17B agreements under the *Crown Land Reserves Act 1978* (Crown Land Licence), and agreement executed by the Landowner and the Secretary under the *Conservation Forests and Land Act* 1987 and registered on the Landowner's title (Landowner Agreement).

On ground control measures for protection of the offsets will ensure they are protected by sturdy rural fencing. This will provide a physical barrier protecting against interference with the conservation of the trees and habitat.

4.6 Benefits to the National Recovery Plan

Many of the planned actions have significant benefits to the objectives set out within the Strzelecki Gum National Recovery Plan (Carter, 2006). These include:

- Acquire information for conservation status assessments;
  - The location of remnant Strzelecki Gum has added to the knowledge of the species distribution within the Morwell river corridor.
- Identify habitat that is critical, common or potential;
  - Not only has potential habitat been identified and revegetated, but by implementing offsets more habitat will be created and revegetated.
- Ensure that all populations and their habitat are protected and managed appropriately;
  - Offsets will be physically protected by fencing, managed under legislative control and protected in perpetuity through Crown Land licenses or Landowner Agreements.
- Manage threats to populations;
  - Pest plants and animals will be controlled not only in offset areas, but also the surrounding conservation areas, reducing threats at a landscape level.
- Identify key biological functions;

  - Observational descriptions, planting records and other flora and fauna surveying can all be used in helping to identify key biological functions.
  - Strzelecki Gum health monitoring can be used to better understand the risks and threats to remnant populations.
- Determine growth rates and viability of populations;
  - Observations, planting records, and photographs are all available on these sites to aid in the study of this species.
  - Strzelecki Gum health monitoring can be used to better understand the population dynamics of remnant populations.
- Build community support for conservation
  - EnergyAustralia is a supporter of the local community and encourages community interest in conservation. EnergyAustralia, Yallourn sites have been used in State Government documents highlighting the species.
  - The MWDD recreational trail encourages the community to utilise this natural space and fosters support for its extension and on-going use.

5 Offset Implementation

The offset plan details methods for the management and conservation of Strzelecki Gums and their habitat, as well as other native vegetation within the site, over the ten-year management period. It aims to achieve an improvement in the three sites through management techniques including:

- Creation of required habitat;
- Fencing (where it doesn't already exist);
- Protection and enhancement of existing habitat;
- Planting tube stock to meet approval requirements;
- Planting additional species required to create a broader vegetation community;
- Controlling all on-site grazing threats;
- Protecting the trees and habitat in perpetuity;
- Ensuring that weed cover does not increase beyond current levels;
- Eliminating all high threat woody weeds (<1% cover).

On-title security protection of offset areas (i.e. as Landowner Agreements) dictate specific performance targets such as levels of weed control that are beyond those identified in this offset plan and detailed in the following sections.

All works must be undertaken by suitably qualified and experienced personnel who hold all appropriate permits.

The management actions must be measurable and able to be adapted and / or reviewed if additional issues are identified following commencement.

5.1 Environmental Outcomes to be Achieved

The key environmental outcomes to be achieved through protection and management of the offset site are:

- Legal protection through the use of a 17B License agreement of an approximate 71.9 hectare offset site that includes 35 hectares of existing Strzelecki Gum habitat and a 36.9 hectare Strzelecki Gum revegetation site;
- On-title protection through the use of an Agreement executed by the Landowner and the Secretary under the *Conservation Forests and Land Act* 1987 and registered on the Landowner's title (Landowner Agreement) that includes 14.1 hectares of existing Strzelecki Gum habitat and a 27.1 hectare Strzelecki Gum revegetation site;
- Protection of 1601 (1480 required and additional 121 protected) Strzelecki Gum trees;
- Physical protection of the site from manageable threats including stock, weed invasion, firewood collection and inappropriate access;
- Improvement in the condition of existing areas of Strzelecki Gum habitat through weed control and pest animal control actions; and
- Increase in the number of Strzelecki Gum through the revegetation of 5250 seedlings.

Key performance and completion criteria are listed below:

- Establishment of legal protection (*Section 5.2*);
- Successful management of threats, including exclusion of stock grazing, firewood collection, weeds, pest animals and inappropriate access (*Section 5.3, 5.4 & 5.5*);
- Successful establishment of 5250 additional Strzelecki Gum trees (*Section 5.6*);
- Completion of scheduled monitoring activities (*Section 5.8*);
- Completion of scheduled management actions (*Section 5.9*);
- Completion of scheduled reports and audits (*Section 6*).

5.2 Site Protection

The Offset Area straddles a combination of privately owned, and Crown Land managed by EnergyAustralia Yallourn. Because of this, two different protection mechanisms are used based on the land tenure of each parcel. The two protection mechanisms are:

- A Licence under Section 17B of the *Crown Land Reserves Act 1978* (Crown Land Licence), and
- An Agreement executed by the Landowner and the Secretary under the *Conservation Forests and Land Act* 1987 and registered on the Landowner's title (Landowner Agreement).

Protection mechanisms were already established during the period of the original offset plan however, this version has some slight variations to the boundaries of the area being protected. Therefore, amendments to both the protection mechanisms will be required. Map 4 highlights which protection mechanism is appropriate for each area, and where new protection is required to be established.

Table 7 provides detail on the security arrangements, management responsibility and reporting requirements of the offset site.

Table 7 - Security and management responsibility and reporting requirements.

Responsibility	
Type of security	Crown Land Licence and Landowner Agreement
10-year offset management to commence	At the date of execution of the revised security mechanisms
10-year offset management expires	10 years from the date of the execution of the revised security mechanisms
Meeting of Offset Site targets	EnergyAustralia Yallourn
Offset Site Management Responsibility	EnergyAustralia Yallourn
Offset Site Monitoring Responsibility	EnergyAustralia Yallourn
Offset site Auditing Responsibility	EnergyAustralia Yallourn
Internal reporting/record keeping responsibility	EnergyAustralia Yallourn
Reporting responsibility to DCCEEW / DEECA	EnergyAustralia Yallourn
Offset Management Plan Review	EnergyAustralia Yallourn

5.3 Weed Control

5.3.1 High Threat Weed Control

All high threat woody weeds in all offset areas will be eliminated (<1% cover).

Other, non-woody high threat weeds will be managed based on the intention of the offset area:

- Revegetation Area: All non-woody high threat weeds will be reduced to negligible cover (<1%) in the immediate vicinity of the plant (<1 metre) at the time of planting. These will be maintained at no greater than 5% cover in the broader planting area; or less if they threaten the survival of planted plants;
- Remnant Strzelecki Gum habitat: All non-woody high threat weeds will be managed so that they do not increase in cover;
- Block 28: State Government requirements dictate a specific level of weed control for this site that is beyond that listed above (Cole & Dwyer, 2009).

Table 8 summarises these objectives per site.

Table 8 - Weed control targets for each offset area

Offset Area	Blocks	Weed control target
Latrobe River	*44 revegetation area*	• High threat woody weeds eliminated (<1%); • Other high threat weeds to negligible levels (<1%) in the immediate vicinity of plant (<1 metre) at the time of planting and maintained at no greater than 5% in the broader planting area or less if they threaten the survival of planted plants.
	44, 40a and 40b	• High threat woody weeds eliminated (<1%) and other high threats managed so that they do not increase beyond current levels.
	Block f	• High threat woody weeds eliminated (<1%); • Other high threat weeds to negligible levels (<1%) in the immediate vicinity of plant (<1 metre) at the time of planting and maintained at no greater than 5% in the broader planting area or less if they threaten the survival of planted plants.
Morwell River	*28*	• As required by Cole and Dwyer (2009).
	29a, 29b, 29d, 32 and h	• High threat woody weeds eliminated (<1%) and other high threats managed so that they do not increase beyond current levels.
	29d revegetation area	• High threat woody weeds eliminated (<1%); • Other high threat weeds to negligible levels (<1%) in the immediate vicinity of plant (<1 metre) at the time of planting and maintained at no greater than 5% in the broader planting area or less if they threaten the survival of planted plants.
MWDD	*50a, 50b and 50c*	• High threat woody weeds eliminated (<1%); • Other high threat weeds to negligible levels (<1%) in the immediate vicinity of plant (<1 metre) at the time of planting and maintained at no greater than 5% in the broader planting area or less if they threaten the survival of planted plants.

Table 9 lists all high threat weeds (including high threat woody weeds) identified within each offset area.

Seven of the species listed are declared 'noxious weeds' under the *Catchment and Land Protection Act 1994* (CaLP Act). It should be noted that the duty of care in regard to these weeds extends beyond what is required to achieve the stated gains.

Table 9 - High Threat weeds within each offset area

HIGH THREAT WEEDS		OFFSET AREA		
Botanical Name	**Common Name**	**Latrobe River**	**Morwell River**	**MWDD**
Anthoxanthum odoratum	Sweet Vernal Grass		^	
Cirsium vulgare *	Spear Thistle	+	+	+
Ehrharta erecta	Panic Veldt-grass		^	
Galium aparine	Cleavers		^	
Genista linifolia * #	Flax-leaved Broom	+		
Jacobaea vulgaris *	Ragwort	+		
Phalaris arundinacea	Reed Canary Grass	+	+	+
Phalaris aquatica	Canary Grass		+	+
Pittosporum undulatum #	Sweet Pittosporum	+		
Rubus fruticosus spp. agg. *#	Blackberry	+	+	+
Salix discolor ~#	Pussy Willow	+		
Salix fragilis ~#	Crack Willow	+		
Solanum pseudocapsicum #	Madiera Winter Cherry	+	+	
Tradescantia fluminensis	Wandering Trad	+		
Xanthium spinosum *	Bathurst Burr			+

* Declared noxious weeds (Regionally Controlled) under the *Catchment and Land Protection Act 1994*
~ Declared noxious weeds (Restricted) under the *Catchment and Land Protection Act 1994*
# High threat woody weeds
^ Considered a high threat only in certain zones of Block 28

Appendix 2 details techniques that should be used to control all of the high threat weeds listed. Weed control works should be undertaken by experienced bushland managers and care should be taken to ensure that indigenous ground storey species are protected during the treatment of weeds. Herbicide application rates and recommended personal protective equipment worn must adhere to the specifications as designated in the relevant chemical label.

Weed control will be determined to be a success if the targets listed in Table 8 are consistently met.

5.4 Pest Animal Control

EnergyAustralia Yallourn maintain an Integrated Pest Animal Control Program and undertake monitoring and control for pest animals across its land tenure. Control of these pest animal species provides major environmental benefits including the protection of existing vegetation and planted recruits, protection for natural regeneration, reduced ground-storey and soil disturbance, and the provision of improved habitat for existing and future native fauna species. This program has resulted in a sharp decline in European Rabbit and Red Fox numbers across the EnergyAustralia Yallourn site since its commencement.

The program covers many areas of the site, including the areas relevant to this Offset Plan.

5.4.1 Rabbits

Rabbit activity is particularly high nearby the south side of the Latrobe River, eastern side of Block 28 and the terminating section of the MWDD. The pest animal control program will be coordinated to incorporate the offset areas in their entirety and help mitigate the risk associated with rabbit predation on the success of plantings and regeneration of Strzelecki Gum. This will be done as described below.

- Site survey and identification of rabbit harbour, burrows and likely infestations;
- Monitoring and recording of rabbit densities via spotlight counts;
- Identification of priority areas;
- Implementation of rabbit control:
    - Collapse and fumigation of burrows; and
    - Setup of bait stations with Pindone or 1080 oats; and
- Continual monitoring of the area to quantify impact of control program.

If rabbit numbers are still considered to be above a ‘low’ rating at the time of planting and a risk to planted plants is present, then all plants will be planted with protective guarding. This guarding will not be removed until the plant growth exceeds the guard height by 30 centimetres or has significant enough growth to thrive among a rabbit population.

If plants are planted without guarding (a ‘low’ rating is recorded prior to planting) then they will be continually monitored fortnightly for signs of damage and local evidence of a persisting rabbit population.

5.4.2 Foxes

Foxes are difficult to monitor due to their broad home range however, trends are beginning to emerge in the background data of priority areas. One of these priority areas is the Block 29b / Block g area. This area has been targeted to control foxes in the past and is likely to persist as long as foxes are recorded in the area.

Fox control includes:

- Recording of fox sightings through observation;
- Identification of priority areas based on records;

- Implementation of fox control using 1080 bait stations; and
- Continual monitoring of controlled area.

5.4.3 Feral Cats

Feral cats are another pest animal concern on EnergyAustralia land. These have been historically recorded near by the Block g wetlands. Feral cat control includes:

- Recording of feral cat sightings through observation;
- Identification of priority areas based on records;
- Implementation of feral cat control using traps;
- Handover of trapped animals to local government (Latrobe City Council); and
- Continual monitoring of controlled area.

5.4.4 Deer

Deer have recently (from 2018/2019 onwards) become a threat to the Latrobe and Morwell River vegetation corridor. Grazing of planted recruits, damage to existing vegetation through 'rub trees', tracks and wallows that impede regeneration and have the potential to cause erosion, and damage to fencing has been observed.

Deer management for the site has been developed and includes:

- Recording of deer sightings (direct and indirect) through observation and trail camera monitoring;
- Identification of priority areas through records and observations;
- Protection of planted recruits by guarding and exclusion fencing (if practicable);
- Control by a qualified shooter; and
- Continual monitoring of controlled areas.

5.5 Fencing

Many offset areas abut grazing land. The protection of offset areas includes minimising grazing stock entry, and this is provided by the installation of rural fencing. This type of fencing also benefits the offset areas by physically marking boundaries and impeding unauthorised entry.

Rural fencing at EnergyAustralia Yallourn is constructed and maintained to meet the standards required for containment of both beef cattle and sheep in defined grazing areas and therefore necessarily also their exclusion from the adjoining vegetation offset areas. Fences are generally constructed using treated pine posts, ringlock and plain wire with welded steel gates and to comply with Australian Standards.

Most of the fencing required for the protection of remnants and revegetation areas is already in place, having been installed as a requirement of existing State Government offsets or the original Offset Plan.

Some areas such as the north side of the Latrobe River (collectively known as the Yallourn North Open Cut [YNOC]) have no access by livestock and are restricted to the public by security fencing around the site. Personnel who work within the security area are inducted and informed of the importance of remnant native vegetation. As such, these areas do not require any additional fencing. Should land use change in this area then adequate fencing is required to protect the offsets.

The fencing integrity is to be monitored prior to any livestock introduction in adjacent paddocks and formally monitored annually to coincide with reporting requirements (discussed below), to ensure minimum risk of stock entry to offset areas.

Fence installation and maintenance will be determined to be a success if fencing adequately protects vegetation from livestock and any damage to fencing is reported and mitigated before damage to vegetation occurs.

5.6 Revegetation

There is a revegetation component required at all three offset areas (Map 3). The MWDD is a revegetation area in its entirety. All revegetation areas will be subject to the following process:

5.6.1 Planning

The following actions will be initiated at least one year prior to planting:

- The planting area needs to be protected:
    - Via protective fencing if adjacent to livestock areas;
    - Via physical protection to prevent potential damage from the public.
- Seed sourced from plants from the loss site. If required species are not present on the loss site then seed needs to be sourced from other local provenance sources (< 15 kilometres);
- Nursery orders placed using the collected seed to propagate tubestock;
- Planting layouts to be prepared to estimate densities and ensure an adequate cover and density of plants. These will also detail preparation, maintenance and monitoring activities to ensure survival;
- High threat woody weeds need to be removed based on the techniques detailed in Appendix 2; and
- Other threats are analysed and mitigated.

5.6.2 Preparation

The following actions will take place at least two weeks prior to planting:

- Other high threat, and threatening weeds will be removed from the planting site;
- The planting site will be prepared with herbicide as detailed by the planting layout; and
- The site will be inspected to ensure that weed control has been effective and no other threats remain.

5.6.3 Planting

The following actions will take place during planting:

- Plants will be planted based on the species composition in Appendix 3; and
- Tree guards will be used if the rabbit level is greater than 'low' or *any* other threat from pest herbivores is present.

5.6.4 Maintenance

The following actions will take place quarterly after planting and additionally as required:

- All weeds and threatening plants will be removed by hand from within the tree guards or within the immediate 30 centimetres of unguarded tubestock;
- All other weeds within 1 metre of planted plants, or in the entire planting area if appropriate are to be sprayed with herbicide. Weed levels in general are expected to be negligible (<5%) in the planting area; and
- Other threatening processes are to be observed and reported to the Client.

5.6.5 Monitoring

The following actions will take place three and six months post planting and for five years annually after planting:

- Plant survival rates will be assessed through sample counts;
- Ongoing threats to survival will be recorded and mitigated; and
- Plant losses will be determined and replanted as required.

Revegetation will be determined to be a success when the required number of plants listed in Appendix 3 are established and survive after five years and trees reach maturity and begin producing seed.

5.7 Adaptive Management & Review

The OMP is inherently adaptive, with the implementation of actions, monitoring and a review cycle developed to enable revision of management actions. This will enable actions to be adapted to still meet required targets if issues such as seasonal conditions or other site risks become apparent. Additionally, new management techniques may become available and be of benefit for the conservation of Strzelecki Gum and its habitat through ongoing conservation and distribution research being undertaken by organisations such as the Department of Energy, Environment & Climate Action (DEECA) Arthur Rylah Institute (ARI). Developments in the control of pest plants and animals will also be incorporated into the management plan if additional benefits can be identified.

This plan provides direction on management actions for a period of 10 years. Review of the OMP will be required if monitoring identifies that an action is not meeting the specified standard or will not meet the standard within the 10-year implementation period. Corrective

action will then be identified and implemented, and the plan updated to reflect this change. In addition to this, a Plan review will also be necessary in the event of a major incident such as wildfire or flood that significantly alters the condition of the offset site. Section 7 provides further detail on the risks associated with the implementation of the OMP and the corrective action to be undertaken.

In the event of plan review being triggered, any future adaptive management changes will be incorporated into the plan and an updated version supplied to DCCEEW for approval.

5.8 Monitoring

Monitoring of both remnant and revegetation areas is required. Monitoring outcomes relevant to this plan are to be recorded on an annual basis in the form found in Appendix 4.

5.8.1 Revegetation Areas

Revegetation areas are to be monitored for threats to plant survival with estimates of losses made so that they can be replanted if required. This is to occur three months after planting, six months after planting and annually thereafter. The key criterion to be assessed includes:

- Threats from pest herbivores;
- Threats from weed competition;
- Condition of fencing or other protection measures;
- Visual notes on the health and vigour of the plants;
- Plant survival through sample counts; and
- Losses determined so that replanting can occur.

If any threats are found to be present in the revegetation areas, then initiation of relevant management actions described in this plan will commence.

5.8.2 Remnant Areas

Remnant areas are to be monitored annually. The key criterion to be assessed includes:

- Threats from pest herbivores;
- Threats from weed competition;
- Condition of fencing or other protection measures;
- Visual notes on the health and vigour of the plants;
- Estimates of regeneration; and
- Photographic evidence (photo points) of important populations.

If any threats are found to be present, then that will initiate further investigation as to the cause. Appropriate mitigation measures will then follow including specific monitoring to determine impacts from identified threats.

5.8.3 Monitoring Schedule

Table 10 provides additional detail on the initial and on-going monitoring required for this plan. This will include an update on current revegetation success of activities completed, revegetation still required and identification of threats and issues to plant survival.

Table 10 - OMP Monitoring Schedule

Monitoring activity	Management needs/questions addressed	Parameter measured	Survey/monitoring guidelines	Where	When
1. Monitor threats, health and survival of remnant Strzelecki Gums	• Determine the health and threats to remnant Strzelecki Gums.	• Remnant Strzelecki Gum health. • Threats to Strzelecki Gums. • Fence condition. • Regeneration of Strzelecki Gum.	• Walk through all remnant protection areas noting remnants health, threats or issues to address. • Inspect fences where present. • Record regenerating Strzelecki Gums. • Complete offset plan reporting sheet (Appendix 4)	Latrobe & Morwell River Corridors	Annually
2. Determine number of Strzelecki Gum already planted.	• Total number of surviving planted Strzelecki Gum • Determine replanting (if required)	• Plant survival numbers.	• Record location of all surviving Strzelecki Gum plantings. • Provide updated locations of individual surviving plantings. • Complete offset plan reporting sheet (Appendix 4).	MWDD	Year 1 & Year 5
3. Monitor on-going health and survival of Strzelecki Gum revegetation plantings.	• Estimate losses through sample counts • Determine replanting (if required)	• Plant survival numbers.	• Estimate any losses of Strzelecki Gum plantings through sample counts. • Complete offset plan reporting sheet (Appendix 4).	MWDD	Annually
4. Monitor threats to Strzelecki Gum revegetation plantings.	• Identify additional threats to plant survival. • Note condition of fencing.	• Threats to Strzelecki Gums. • Fence condition.	• Walk through all revegetation areas noting threats or issues to address. • Inspect fences where present.	MWDD	Annually
5. Determine number of Strzelecki Gum already planted.	• Total number of surviving planted Strzelecki Gum. • Determine replanting requirements.	• Plant survival numbers.	• Record location of all surviving Strzelecki Gum plantings. • Provide updated locations of individual surviving plantings. • Complete offset plan reporting sheet (Appendix 4).	Latrobe & Morwell River Corridors	Year 1 & Year 5 post planting
6. Monitor health and survival of Strzelecki Gum revegetation plantings immediately after installation.	• Survival of newly installed planted Strzelecki Gums • Determine replanting (if required)	• Revegetation success and estimate any losses. • Additional revegetation requirements identified	• Monitor at 3 & 6 months post installation. • Sample counts. • Complete offset plan reporting sheet (Appendix 4).	Latrobe & Morwell River Corridors	Year 1 3 and 6 months post install
7. Monitor on-going health and survival of Strzelecki Gum revegetation plantings.	• Estimate losses through sample counts. • Determine replanting (if required).	• Plant survival numbers.	• Estimate any losses of Strzelecki Gum plantings through sample counts. • Complete offset plan reporting sheet (Appendix 4)	Latrobe & Morwell River Corridors	Annually
8. Monitor threats to Strzelecki Gum revegetation plantings.	• Identify threats to plant survival. • Note condition of fencing.	• Threats to Strzelecki Gums • Fence condition.	• Walk through all revegetation areas noting threats or issues to address. • Inspect fences where present.	Latrobe & Morwell River Corridors	Annually

Monitoring activity	Management needs/questions addressed	Parameter measured	Survey/monitoring guidelines	Where	When
9. Monitor weed cover.	• Compliance with high threat weed coverage targets listed in Table 8.	• High threat woody weed coverage. • Other high threat weed coverage.	• Walk through remnant areas estimating cover. • Complete offset plan reporting sheet (Appendix 4)	All sites	Spring Biennially
10. Monitor pest animal numbers	• Compliance with Pest Animal Control Plan	• Recordings of pest animal sightings • Bait takes	• Interrogation of implementation actions associated with the Pest Animal Control Program. • Complete offset plan reporting sheet (Appendix 4)	All sites	Annually

5.9 Implementation Schedule

Table 11 provides a summary of the management actions, their standard to be achieved, timing, monitoring and reporting arrangements for implementation.

Table 11 - Summary of management actions

Activity #	Management Objective/Outcome	Performance Target / Completion Criteria	Management Measure	Where	When	Related Monitoring Activity
Site Protection						
1	On-title protection for all offsets	• All offsets secured by either CL License or Landowner Agreement	• Completed agreements	Morwell River and Latrobe River corridors	Year 1	N/A
Strzelecki Gums						
2	Monitor health, threats, and regeneration of remnant Strzelecki Gums.	• Retain all remnant Strzelecki Gums on site. • Threats to remnant Strzelecki Gum are identified. • Encourage recruitment events of Strzelecki Gum from remnant mature trees through management actions.	• No decrease in remnant Strzelecki Gum on site. • Any threats are mitigated once identified.	Morwell River and Latrobe River corridors	Annually Year 1 - 10	Activity # 1
Fencing						
3	Maintain fencing in good condition around entire boundary of all sites where fencing exists or is required.	• Maintain current fencing to exclude stock. • No firewood collection within the offset site. • Repair fence immediately upon identification of damage.	• No stock access • Fence kept in good repair	Where fencing exists or is required	Annually Year 1 - 10	Activity #'s 1,4 & 8
Woody Weeds						
4	Eliminate all high threat woody weeds. Monitor for any re-sprouting or seedlings and eradicate.	• Eliminate all high threat woody weeds by end of Year 10, with <1% cover. • Minimise off-target damage from control activities (avoid all native plants). • Further detail provided in *Appendix 2* for species, control method and timing.	• Achievement of targets by end of Year 10 outlined in Table 8.	All sites	Annually Year 1 - 10	Activity # 9.
Herbaceous Weeds						
5	Eliminate all high threat herbaceous and grassy weeds in the immediate vicinity of revegetation plantings and at no greater than 5% in the broader planting area.	• Eliminate all listed high threat herbaceous weeds by end of Year 10 with <1% cover within 1m of plantings. • Maintain high threat herbaceous weeds to 5% outside this area within revegetation zones.	• Achievement of targets by end of Year 10 outlined in Table 8.	Revegetation sites	Annually Year 1 - 10	Activity # 9

Activity #	Management Objective/Outcome	Performance Target / Completion Criteria	Management Measure	Where	When	Related Monitoring Activity
		• Minimise off-target damage from control activities (avoid all native plants). • Further detail provided in *Appendix 2* for control method and timing.				
6	Other high threat herbaceous and grassy weeds managed so that they do not increase beyond current levels within remnant protection areas.	• No increase beyond existing cover for all herbaceous weeds. • Minimise off-target damage from control activities (avoid all native plants). • Further detail provided in *Appendix 2* for control method and timing.	• Achievement of targets by end of Year 10 outlined in Table 8.	All sites	Annually Year 1 - 10	Activity # 9
Pest Animals						
7	Monitor for and control impacts from rabbits, foxes and deer.	• Implement the site wide Pest Animal Plan. • No surface disturbance within the site. • No active rabbit warrens to be present. • No damage to Strzelecki Gum plantings from deer activity. • No rubbish. • Minimal artificial piles of logs and rocks.	• Implement Pest Animal Control Plan and production of annual report.	All sites	Annually Year 1 - 10	Activity # 10
Revegetation Planting						
8	Collect indigenous seed on site and / or place order with local indigenous nursery.	• Collect seed / propagate tube stock (seedlings) for species listed in *Appendix 3* from seed sourced on site or as locally as possible and from the same soil type. • Provenance principles should be followed of seed collected on or adjacent to the offset site.	• Completion of plant / nursery orders.	Revegetation sites	Autumn prior to planting Year 1 - 3	N/A
9	Undertake revegetation planning activities including identification of fencing and planting layouts.	• Protection of revegetation areas via fencing if risk associated with browsing is evident. • Planting layouts prepared to ensure adequate plant coverage and density.	• Identification of browsing risk. • Completion of planting layouts.	Revegetation sites	3 months prior to planting Year 1 - 3	N/A
10	Undertake planting preparation activities.	• Install rip lines if for planting if required. • Planting circles to be weed free with no high threat weed cover at time of planting.	• Inspection to determine completion of planting preparation works.	Revegetation sites	6 weeks prior to planting	N/A

Activity #	Management Objective/Outcome	Performance Target / Completion Criteria	Management Measure	Where	When	Related Monitoring Activity
		• 2 cycles of weed elimination may be required.			Year 1 - 3	
11	Plant seedlings with species specified and guard seedlings with core flute or wallaby guards.	• By the end of Year 3 – all plantings have been completed within the revegetation area.	• Plants installed to required numbers and survival monitoring completed.	Revegetation sites	Winter Year 1 - 3	Activity # 6
12	Undertake plant maintenance post planting including weed control and guard re-establishment / removal.	• Control all high threat weeds to plants survival. • Minimise off-target damage from control activities (avoid all native plants). • Removal of guards once plantings are self-sufficient and risk reduced to survival.	• Completion of plant maintenance runs at 3 & 6 months.	Revegetation sites	Post plant installation Spring/Summer Year 1 - 3	Activity # 9
13	Replace unsuccessful seedlings if losses observed.	• 100% survival of Strzelecki Gum plantings and 85% of all other planting numbers as specified in *Appendix 3* by the end of Year 10. • Replace lost plantings if required to ensure numbers are maintained.	• Plants installed to required numbers and survival monitoring completed.	Revegetation sites	Autumn Year 4- 10	Activity # 2, 3, 5, 6 & 7
Monitoring						
14	Implement monitoring methods to determine compliance with commitments and to determine risk to achieving performance targets.	• Determine on-going compliance with performance targets. • Determine risk to compliance early in projects implementation.	• Implementation of all monitoring as specified in Table 10	All sites	Annually Year 1 - 10	All
Annual Review and Reporting						
15	Review plans progress towards achieving performance targets	• Review required if monitoring or reports indicate targets/completion criteria may not be attained/maintained; or • Following significant environmental incidents/events. • Confirm protection agreements are current.	• Implement specific monitoring to address impacts from major incident or event. • Review progress towards performance targets. • Review entire OMP including targets and activities. • Report completed annually.	All sites	Annually After significant event Year 1-10	N/A

Activity #	Management Objective/Outcome	Performance Target / Completion Criteria	Management Measure	Where	When	Related Monitoring Activity
16	Prepare and submit an annual report to DEECA for Landowner Agreements.	• Report provides enough detail in the form of written comments and supporting evidence for the completion of / progress against the management commitments. • Report utilises information collected from the reporting monitoring templates and records and field observations of the work crews notes.	• Report completed annually.	All sites	Annually Year 1 - 10	N/A
17	Prepare and submit an annual report to the Department.	• Report provides enough detail in the form of written comments and supporting evidence for the completion of / progress against the management commitments. • Report utilises information collected from the reporting monitoring templates and records and field observations of the work crews notes.	• Report completed annually.	All sites	Annually	N/A

6 Reporting & Audits

6.1 Reporting

Reports are required to be submitted to the Department annually after the commencement of operations. As well as incorporating all outcomes of any recent auditing required by the Minister (Section 6), the report should also address the objectives of the National Recovery Plan for the Strzelecki Gum (Carter, 2006) and comment on how action taken is aiding the implementation of that plan. The objectives of the National Recovery Plan are listed in Section 4.6.

These reports are to succeed a site inspection of the three offset areas and detail the following:

- Overall condition of offsets pertaining to this plan;
- Non-conformities with the plan including explanations for non compliance and a corrective action plan;
- A summary of the progress of revegetation including records of success rates; and
- A summary highlighting progress in relation to time.

The reports will utilize the information recorded by the specific monitoring result surveys undertaken and it will be complemented by information detailed in the records and field observations of the work crews. Descriptions of the revegetation progress and subsequent survival rates, fencing work, the success of weed and pest animal control management, any concerns noted and/or experienced (i.e. new infestation of weed species, storm damage to fencing, flooding, wildfire etc.) and the steps taken to rectify these concerns, and successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring techniques etc.) will be included within the reports using the Strzelecki Gum Offset Plan Reporting Sheet (Appendix 4).

Reports are to quote the approval number to which this Offset Plan applies (EPBC 2008/4454).

6.2 Audits

The revised conditions of the Approval Notice describes that the Minister may require audits to be undertaken. This is to measure performance and report compliance. Audits are:

- To be from an independent auditor;
- To be from an auditor approved by the Minister prior to the commencement of the audit;
- To have criteria agreed to by the Minister;
- To have criteria that address the conditions of approval and list actions taken to address these;
- To be submitted in a report that satisfactorily addresses the set criteria;

It is the responsibility of EnergyAustralia to ensure these audits are facilitated upon request from the Minister.

7 Risk Assessment

An assessment of the potential risks associated with the implementation of the Offset Plan are provided in Table 14. This follows the evaluating risk framework identified in the DCCEEW Environmental Management Plan Guidelines (DoEE, 2014), provided in Table 12 & Table 13 below.

All risks have been identified as Low to Medium.

Table 12 - Risk framework

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

(DCCEEW, 2014)

Table 13 - Likelihood and consequence

Qualitative measure of likelihood (how likely is it that this event/circumstances will occur after management actions have been put in place/are being implemented)	
Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances
Qualitative measure of consequences (what will be the consequence/result if the issue does occur)	
Minor	Minor risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing low cost, well characterised corrective actions.
Moderate	Moderate risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing well characterised, high cost/effort corrective actions.
High	High risk of failure to achieve the plan's objectives. Results in medium-long term delays to achieving plan objectives, implementing uncertain, high cost/effort corrective actions.
Major	The plan's objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies.
Critical	The plan's objectives are unable to be achieved, with no evidenced mitigation strategies.

(DCCEEW, 2014)

Table 14 - Risk Assessment of the Offset Plan

Management objective/desired outcome	Risk (event or circumstance)	Relevant management actions/measures	Residual risk L[1]	C	RL	Detection/monitoring activity/ies	Feasible/effective corrective actions
Establish no less than 3510 *Eucalyptus strzeleckii* individuals (seedling stock) in the area of EnergyAustralia Yallourn's (formerly known as TRUenergy Yallourn) mining licence along the Latrobe and Morwell Rivers.	Domestic stock access the offset site	Activity 3	Un	Mi	L	• Site inspections and completion of management activities	• Remove stock from site; • Replace / repair fencing and assess if additional fencing is required; • Identify if revegetation plantings damaged and monitor their recovery; • Replace lost / damaged plantings.
	Damage to fencing	Activity 3	P	Mi	L	• Site inspections and completion of management activities	• Replace / repair fencing and assess if additional fencing is required.
	Unauthorised access, signs of vehicle activity or collection of firewood from offset site	Activity 2 & 3	P	Mi	L	• Site inspections and completion of management activities	• Replace / repair fencing and assess if additional fencing is required; • Determine if any impacts to revegetation plantings has occurred; • Replace lost / damaged plantings. • Erect signage to advise of the sites significance and what activities are prohibited.
	Increase in weed coverage beyond that specified in OMP (Table 8)	Activity 4, 5 & 6	P	Mi	L	• Site inspections • Weed monitoring	• Increase weed control activities.
	Native herbivore grazing on revegetation plantings	Activity 9 & 12	L	Mo	M	• Site inspections and completion of management activities • Signs of damage to revegetation plantings	• Replace lost / damaged plantings; • Protect Strzelecki Gum recruits with rabbit/wallaby/deer proof guards;
	Pest animal activity impacting on revegetation plantings	Activity 7, 9 & 12	P	Mi	L	• Site inspections and completion of management activities • Signs of damage to revegetation plantings Pest animal monitoring	• Replace lost / damaged plantings; • Undertake pest animal control specific to the identified impact.
	A significant event such as flood or wildfire within the site results in: • Loss of fencing • Death of remnant Strzelecki Gums • Increase in weed levels • Increased erosion	Activity 14 & 15	P	H	M	• Site inspections post event. • Fire / Flood warnings.	• Replace lost / damaged fencing; • Implement specific monitoring to determine impacts from events; • Monitor revegetation plantings and reinstall numbers if targets not met;

[1] Likelihood, consequence and residual risk level

Management objective/desired outcome	Risk (event or circumstance)	Relevant management actions/measures	Residual risk L[1]	C	RL	Detection/monitoring activity/ies	Feasible/effective corrective actions
							• Monitor weed levels and increase frequency of control works if competition with plantings increases; • Implement specific monitoring to determine if impacts to the offset site is detrimental. • Review entire OMP including targets and activities and update as required.
	Revegetation plantings fail	Activity 13	P	Mo	M	• Site inspections and completion of management activities; • Plant survival monitoring.	• Determine cause of death; • Increase plant preparation works to reduce competition from other vegetation; • Increase post planting maintenance to ensure competition or other impacts are removed / reduced; • Replace plantings to reach / maintain required numbers.
	Non-conformance with on-title protection requirements (CL License or Landowner Agreement).	Activity 16	P	Mi	L	• Annual DEECA reporting • DEECA auditing	• Ensure all management actions for areas that are covered by protection agreements are completed annually; • Engage in discussions with DEECA early if any issues arise.
Establish no less than 1740 *Eucalyptus strzeleckii* individuals in the planned Morwell West Drain diversion.	Domestic stock access the offset site	Activity 3	P	Mi	L	• Site inspections and completion of management activities	• Remove stock from site; • Replace / repair fencing and assess if additional fencing is required; • Identify if revegetation plantings damaged and monitor their recovery; • Replace lost / damaged plantings.
	Damage to fencing	Activity 3	P	Mi	L	• Site inspections and completion of management activities	• Replace / repair fencing and assess if additional fencing is required.
	Unauthorised access, signs of vehicle activity or collection of firewood from offset site	Activity 2 & 3	P	Mi	L	• Site inspections and completion of management activities	• Replace / repair fencing and assess if additional fencing is required; • Determine if any impacts to revegetation plantings has occurred; • Replace lost / damaged plantings; • Erect signage to advise of the sites significance and what activities are prohibited.
	Increase in weed coverage beyond that specified in OMP (Table 8)	Activity 4, 5 & 6	P	Mi	L	• Weed monitoring	• Increase weed control activities. • Monitor for any new and emerging weeds.

Management objective/desired outcome	Risk (event or circumstance)	Relevant management actions/measures	Residual risk L[1]	C	RL	Detection/monitoring activity/ies	Feasible/effective corrective actions
	Native herbivore grazing on revegetation plantings	Activity 9 & 12	L	Mo	M	• Site inspections and completion of management activities • Signs of damage to revegetation plantings	• Replace lost / damaged plantings; • Protect Strzelecki Gum recruits with rabbit/wallaby/deer proof guards;
	Pest animal activity impacting on revegetation plantings	Activity 7, 9 & 12	P	Mi	L	• Site inspections and completion of management activities • Signs of damage to revegetation plantings Pest animal monitoring	• Replace lost / damaged plantings; • Undertake pest animal control specific to the identified impact.
	A significant event such as flood or wildfire within the site results in: • Loss of fencing • Death of remnant Strzelecki Gums • Increase in weed levels • Increased erosion	Activity 14 & 15	P	H	M	• Site inspections • Fire / Flood warnings	• Replace lost / damaged fencing; • Implement specific monitoring to determine impacts from events; • Monitor revegetation plantings and reinstall numbers if targets not met; • Monitor weed levels and increase frequency of control works if competition with plantings increases; • Review entire OMP including targets and activities and update as required.
	Non-conformance with on-title protection requirements (CL License or Landowner Agreement).	Activity 16	P	Mi	L	• Annual DEECA reporting • DEECA auditing	• Ensure all management actions for areas that are covered by protection agreements are completed annually; • Engage in discussions with DEECA early if any issues arise.
Protect no less than 1480 existing *Eucalyptus strzeleckii* individuals.	Remnant Strzelecki Gum numbers decline.	Activity 2	P	Hi	M	• Specific event monitoring. • Site inspections and completion of management activities.	• Determine cause of death; • Undertake additional threat abatement for weeds or pest animals; • Consult with the Department to determine potential cause if unknown; • Review entire OMP including targets and activities.
	Damage to fencing.	Activity 3	P	Mi	L	• Site inspections and completion of management activities	• Replace / repair fencing and assess if additional fencing is required.
	Unauthorised access, signs of vehicle activity or collection of firewood from offset site.	Activity 2 & 3	U	Hi	M	• Site inspections and completion of management activities	• Replace / repair fencing and assess if additional fencing is required; • Determine if any impacts to remnant individuals has occurred;

Management objective/desired outcome	Risk (event or circumstance)	Relevant management actions/measures	Residual risk L[1]	C	RL	Detection/monitoring activity/ies	Feasible/effective corrective actions
							• Erect signage to advise of the sites significance and what activities are prohibited; • Review entire OMP including targets and activities.
	A significant event such as flood or wildfire within the site results in: • Loss of fencing • Death of remnant Strzelecki Gums • Increase in weed levels • Increased erosion	Activity 14 & 15	P	Hi	M	• Site inspections • Fire / Flood warnings	• Replace lost / damaged fencing; • Implement specific monitoring to determine impacts from events; • Review entire OMP including targets and activities and update as required.
	Non-conformance with on-title protection requirements (CL License or Landowner Agreement)	Activity 16	P	Mi	L	• Annual DEECA reporting • DEECA auditing	• Ensure all management actions for areas that are covered by protection agreements are completed annually; • Engage in discussions with DEECA early if any issues arise.

References

Carter, O. (2006). *National Recovery Plan for the Strzelecki Gum Eucalyptus strzeleckii.* Melbourne: Department of Sustainability and Environment.

Cole, N., & Dwyer, S. (2009). *Offset Plan - Yallourn Coal Field Development Maryvale Field Eastern Extension.* Research: Indigenous Design Land Management.

Cole, N., Dwyer, S., Moss, R., Noy, A., Schinagl, H., & Ward, M. (2008). *Ecological Assessment - Yallourn Coal Field Development Maryvale Field Eastern Extension.* Research: Indigenous Design Land Management.

DCCEEW. (2014). *Environmental Management Plan Guidleines, Commonwealth of Australia 2014.* Department of Climate Change, Energy, the Environmnent and Water. Commonwealth of Australia.

DEECA. (2021, October 14). *NatureKit*. Retrieved from http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit

Dwyer, S. (2011). *TRUenergy Yallourn Integrated Pest Animal Control Management Plan.* Research: Indigenous Design Land Management.

EnergyAustralia. (2021). *Annual Compliance Report 2021, EPBC Approval 2008/4454 - Yallourn Coal Field Realignment, Latrobe Valley, Vic - Removal and offset of Eucalyptus strzeleckii (Strzelecki Gum).* Yallourn: EnergyAustralia.

Noy, A., & Owen, A. (2005). *Yallourn Mine Conservation Management Plan Revision.* Research: Indigenous Design Environmental Services.

Schinagl, H. (2011). *DSEWPC Offset Management Plan - Yallourn Coal Field Re-alignment Project.* Research: Indigenous Design Land Management.

Schinagl, H. (2012). *Yallourn Mine Conservation Management PLan 2011 Summary.* Research: Indigenous Design Land Management.

Schinagl, H. (2017). *EPBC Offset Managment Plan: Yallourn Coal Field Re-alignment Project.* Research: Indigeous Design Land Management.

Schinagl, H., & Brooker, T. (2021). *Revised EPBC Offset Management Plan: Yallourn Coal Field Re-alignment Project. EPBC 2008/4454.* Research: Indigenous Design Environmental Management.

Yallourn Energy. (2002). *Yallourn Mine Conservation Management Plan.* Yallourn Energy.

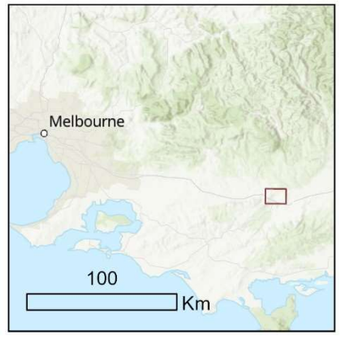
Glossary

Bioregion	Biogeographic areas that capture the patterns of ecological characteristics in the landscape or seascape, providing a natural framework for recognising and responding to biodiversity values.
Bioregional Conservation Status (BCS of an EVC)	A state-wide classification of the degree of depletion in the extent and/or quality of an Ecological Conservation Class (EVC) within a bioregion in comparison to the State's estimation of its pre-1750 extent and condition.
Commonwealth Offset	Offsets required by the Australian Federal Government under the *Environment Protection and Biodiversity Conservation Act (1999)* (EPBC Act).
The Department	The Commonwealth department responsible for the governance of the EPBC Act
Diameter at Breast Height (DBH)	The diameter of the trunk of a tree measured over bark at 1.3m above ground level.
Ecological Vegetation Class (EVC)	A type of native vegetation classification that is described through a combination of its floristic, life form and ecological characteristics, and through an inferred fidelity to particular environmental attributes. Each EVC includes a collection of floristic communities (i.e. lower level in the classification that is based solely on groups of the same species) that occur across a biogeographic range, and although differing in species, have similar habitat and ecological processes operating.
EVC Benchmark	*A standard vegetation-quality reference point relevant to the vegetation type that is applied in habitat hectare assessments. Represents the average characteristics of a mature and apparently long-undisturbed state of the same vegetation type.*
Gain target	The amount of gain that needs to be achieved to offset a loss measured in habitat hectares.
High threat weed	Introduced plant species (including non-indigenous 'natives') with the ability to out-compete and substantially reduce one or more indigenous life forms in the longer term, assuming on-going current site characteristics and disturbance regime.
Large Old Tree (LOT)	A tree with a Diameter at Breast Height equal to or greater than the large tree diameter as specified in the relevant EVC benchmark.
Like-for-like	These are part of the criteria for the determination of an offset and provide a direct link between the loss and the offset gain, in terms of vegetation type or landscape function. There are more specific requirements for higher conservation significance vegetation and more flexible requirements for lower significance.
Medium Old Tree (MOT)	A tree with a Diameter at Breast Height (DBH) equal to or greater than 0.75 of the large tree diameter in the relevant EVC benchmark but less than the DBH for a large old tree.
Offset Zone	An offset area of native vegetation consisting of a single vegetation type (EVC) with similar quality under the same proposed management regime.
Part 8 Agreement	The protection mechanism proposed for the "Offset Areas" made under Part 8 of the *Conservation, Forests and Land Act 1987* (Vic)
Protection (of a tree)	An area with twice the canopy diameter of the tree(s) fenced and protected from adverse impacts: grazing, burning and soil disturbance not permitted, fallen timber retained, weeds controlled, and other intervention and/or management if necessary to ensure adequate natural regeneration or planting can occur.

Recruitment	The production of new generations of plants, either by allowing natural ecological processes to occur (regeneration etc), by facilitating processes such as regeneration to occur, or by active revegetation (replanting, reseeding). See revegetation.
Remnant patch	An area of vegetation, with or without trees, where less than 75% of the total understorey plant cover is weeds or non-native plants (bare ground is not included). That is at least 25% of the understorey cover is native; or a group (i.e. three or more) of trees where the tree canopy cover is at least 20%.
Revegetation	Establishment of native vegetation to a minimum standard in formerly cleared areas, outside of a remnant patch.
Scattered trees	Canopy trees within an area where at least 75% of the total understorey plant cover is weeds or non-native plants and the overall canopy cover for a group (ie. Three or more) of trees is less than 20%.
Shapefile	An ESRI shapefile containing '.shp', '.shx', and '.dbf' files and other files capturing attributes including at least the EPBC reference ID number and EPBC protected matters at the relevant site. Attributes can also be captured in '.xls' format.
Small Tree (ST)	A tree with a Diameter at Breast Height (DBH) equal to or greater than 0.25 of the large tree diameter in the relevant EVC benchmark but less than the DBH for a medium old tree.
State Offset	Vegetation offsets required by the Victorian Government under the Native Vegetation Management: A Framework for Action (the *Framework*).
Supplementary planting	Establishment of overstorey and/or understorey plants within a remnant patch. Typically includes the planting or direct-seeding of understorey life forms.
Very Large Old Trees (VLOT)	A tree with a Diameter at Breast Height (DBH) of at least 1.5 times that of the large tree DBH as specified in the relevant EVC benchmark.

Maps

Map 1 – Yallourn Mine Conservation Management Plan, including EPBC offset areas



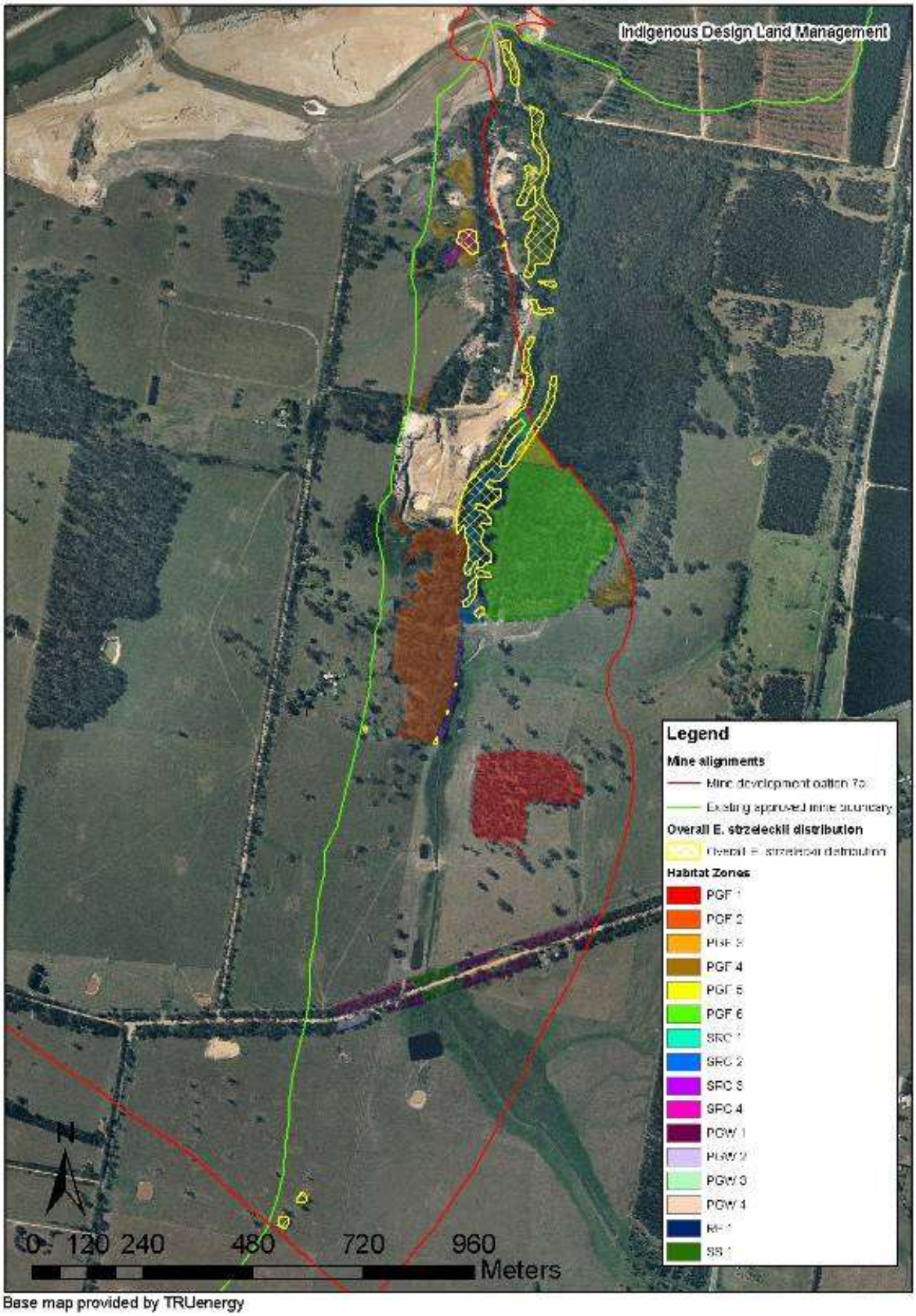
Yallourn Mine Conservation Management Plan after the 2023 revisions, including EPBC offset areas

Spatial Reference
PCS: GDA2020 MGA Zone 55
Datum: GDA2020
Projection: Transverse Mercator

Morwell River upstream project area
CMP boundaries
EPBC offset areas
Latrobe River
Morwell River
Morwell West Drain Diversion

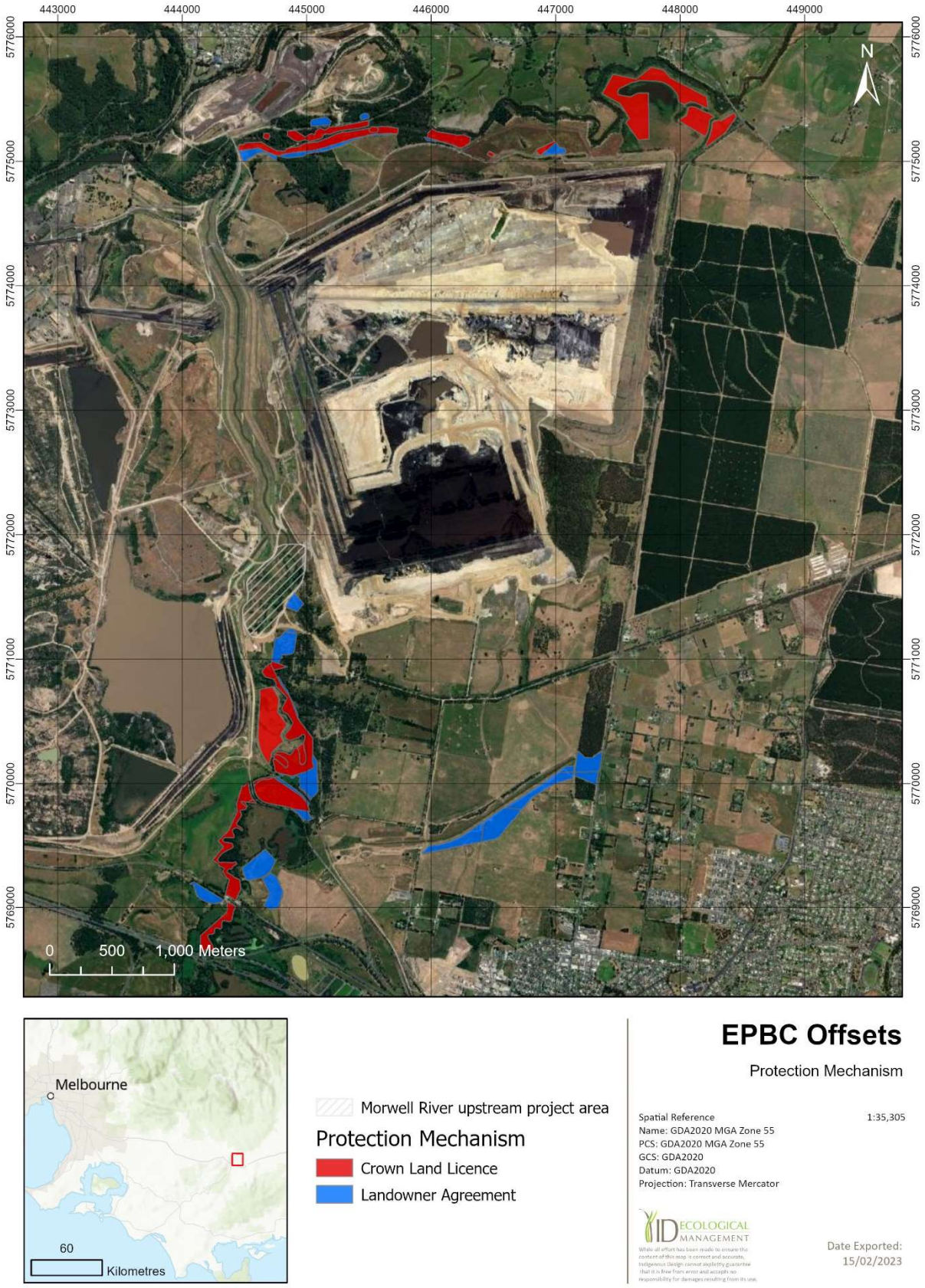
ID ECOLOGICAL MANAGEMENT

Map 2 – Eucalyptus strzeleckii distribution through MWD environs



Map 3 – Planting zones

Map 4 – Protection mechanism for each offset area



Appendices

Appendices commence on the next page.

Appendix 1 – Offset Parcel Details

Energy Australia Yallourn Conservation Management Program Affected Parcels						
Block Number	**Allotment/Lot**	**Section**	**Parish**	**Plan**	**Further Description**	**Status**
Morwell West Drain and Morwell River						
50a	42B		Maryvale		TP3779	
50a	1			LP143169		
50b	42B		Maryvale		TP3779	
50b	1			LP143169		
50b	43A		Maryvale		TP745128	
50b	41		Maryvale		TP622179	
50c	1			TP585672		
29b	3C	A	Narracan			Crown Land
29b	2010		Narracan			Crown Land
29b	47F		Maryvale			Crown Land
29b	47D		Maryvale			Crown Land
29b	47G1		Maryvale			Crown Land
H	2033		Narracan			Crown Land
28	47H		Maryvale			Crown Land
28	47J		Maryvale			Crown Land
28	47K		Maryvale		TP3779	
28	50U	A	Narracan			Crown Land
28	40D1		Maryvale			Crown Land
28	40F		Maryvale		TP3779	
28a	40F		Maryvale		TP3779	
28a	50U	A	Narracan			Crown Land
28a	40D		Maryvale		TP773604	
28a	2			TP848094		
29d	50U	A	Narracan			Crown Land
32	50D	A	Narracan		TP3778	
Latrobe River						
f	50T	A	Narracan			Crown Land
44	50E	A	Narracan		TP3778	
44	50S	A	Narracan			Crown Land
44	13M	C	Tanjil East		TP3778	
44	50S1	A	Narracan			Crown Land
44a	50S1	A	Narracan			Crown Land

Appendix 2 – Recommended weed treatment plan for high threat weeds

Botanical Name	Common Name	Optimum Monthly Timing												Treatment
		J	F	M	A	M	J	J	A	S	O	N	D	
Anthoxanthum ordoratum	Sweet Vernal-grass													H, R, V
Cirsium vulgare	Spear Thistle													K, M
Ehrharta erecta	Panic Veldt Grass													H, R, V
Galium aparine	Cleavers													K, L, M
Genista linlfolia	Flax-leaf Broom													H, CP, Ga
Jacobaea vulgaris	Ragwort													D, H, L
Phalaris arundinacea	Reed Canary-grass													R, V
Phalaris aquatica	Canary-grass													R, V
Pittosporum undulatum	Sweet Pittosporum													CP, H
Rubus fruticosus spp. agg.	Blackberry													Ga
Salix discolor	Pussy Willow													CP, B, R
Salix fragilis	Crack Willow													CP, B, R
Solanum pseudocapsicum	Madeira Winter Cherry													CP, H, S
Tradescantia fluminensis	Wandering Trad													S, H
Xanthium spinosum	Bathurst Burr													K, M

Treatment Key

Treatment	Technique and Herbicide
B	Spray with Brush Off
CP	Cut and paint, or drill/frill and fill large trees with concentrated Roundup Bi-active
D	Dig out
Ga	Spray with Garlon
Gr	Spray with Grazon
H	Hand weed small plants
L	Spray with Lontrel
K	Spray with Kamba
M	Spray with MCPA
R	Spray with Roundup
S	Spray with Starane
V	Spray with Verdict

Please note *some works may be required to be undertaken by an appropriately experienced and qualified bushland manager that holds current herbicide application licenses. Herbicide application rates and recommended personal protective equipment worn must adhere to the specifications as designated in the relevant chemical label.*

Appendix 3 – Revegetation requirements

Common name	Scientific name	Status	MWDD	Morwell River	Latrobe River
Apple Topped Box	*Eucalyptus angophoroides*		40		
Yertchuk	*Eucalyptus consideniana*		28		
Lustrous Scentbark	*Eucalyptus fulgens*	e	10		
Swamp Gum	*Eucalyptus ovata*		280		
Narrow-leaf Peppermint	*Eucalyptus radiata s.s.*		10		
Candlebark	*Eucalyptus rubida ssp. rubida*		40		
Strzelecki Gum	*Eucalyptus strzeleckii*	V ce	1740	1490	2020
Manna Gum	*Eucalyptus viminalis*		144		350
Yarra Gum	*Eucalyptus yarraensis*		10		
Silver Wattle	*Acacia dealbata*		1015	270	826
Black Wattle	*Acacia mearnsii*		100		
Blackwood	*Acacia melanoxylon*		680		
Woolly Tea-tree	*Leptospermum lanigerum*		460		
Swamp Paperbark	*Melaleuca ericifolia*		2125	1083	696
Hazel Pomaderris	*Pomaderris aspera*		50		335
Hedge Wattle	*Acacia paradoxa*		20		
Golden Wattle	*Acacia pycnantha*		250		
Hop Wattle	*Acacia stricta*	*	750		
Prickly Moses	*Acacia verticillata*		1140		
Sweet Bursaria	*Bursaria spinosa*		1150		
Common Cassinia	*Cassinia aculeata*		805		
Drooping Cassinia	*Cassinia arcuata*		270		
Hop Bitter-pea	*Daviesia latifolia*		430		
Grey Parrot Pea	*Dillwynia cinerascens*		100		
Hop Goodenia	*Goodenia ovata*		830		
Hemp Bush	*Gynatrix pulchella*		725		
Austral Indigo	*Indigofera australis*		60		
Burgan	*Kunzea ericoides*		940		
Tree Violet	*Melicytus dentatus*		1170		310
Prickly Tea-tree	*Leptospermum continentale*		2440		
Scented Paperbark	*Melaleuca squarrosa*		250		
Snow Daisy-bush	*Olearia lirata*		840		
Tree Everlasting	*Ozothamnus ferrugineus*		1000		
Golden Bush-pea	*Pultenaea gunnii*	*	570		
Kangaroo Apple	*Solanum aviculare*		150		
Golden Spray	*Viminaria juncea*		30		
Wallaby Grass	*Rytidosperma* spp.		1634		
Spear Grass	*Austrostipa* spp.		450		
Tall Sedge	*Carex appressa*		2310		
Tasman Flax Lily	*Dianella tasmanica*		750		
Green Rush	*Juncus gregiflorus*		800		

Common name	Scientific name	Status	MWDD	Morwell River	Latrobe River
Pale Rush	*Juncus pallidus*		1090		
Loose-flower Rush	*Juncus pauciflorus*		5690		
Spiny-headed Mat-rush	*Lomandra longifolia*		1290		
Common Reed	*Phragmites australis*		2530		
Common Tussock-grass	*Poa labillardierei*		2705		
Kangaroo Grass	*Themeda triandra*		1960		
Common spike-rush	*Eleocharis acuta*		680		
Streaked Arrow-grass	*Triglochin striatum*		400		
Cumbungi	*Typha orientalis*		3280		
		Total	**46221**	**2843**	**4537**

Appendix 4 – Strzelecki Gum Offset Plan Reporting Sheet

YEAR:

EPBC 2008/4454

Remnant Tree Health

Site	Monitoring point #	Canopy Health (% average)	Deaths observed (# per size class)
Latrobe River			
Latrobe River			
Morwell River			
Morwell River			
Morwell River			
Morwell River			

Fencing

Site	Fenced? (✓)	Date installed
Latrobe River		
Morwell River		
Morwell West Drain		

Revegetation

Site	Total Planted	Date(s) Planted	Success Rate(%)
Latrobe River			
Morwell River			
Morwell West Drain			

Maintenance

Site	Insert dates			
	Run 1	Run 2	Run 3	Run 4
Latrobe River				
Morwell River				
Morwell West Drain				

Weed Control

Site	Target species and percentage cover
Latrobe River	
Morwell River	
Morwell West Drain	

Pest Animal Control

Site	Rabbits (dates of control)	Foxes (dates of control)
Latrobe River		
Morwell River		
Morwell West Drain		

Additional Comments

STRZELECKI GUM OFFSET PLAN REPORTING SHEET

YEAR:

EPBC 2008/4454

Planting Species/numbers

Species	Latrobe River	Morwell River	Morwell West Drain

Photos

Photo 1 – Remnant Strzelecki Gum habitat in Block 4 (Morwell West Drain) loss area

Photo 2 – Strzelecki Gum regeneration in Block 6 (Jeffries Quarry) loss area

Photo 3 – Strzelecki Gum trees and habitat to be protected in Block 29b (Morwell River)

Photo 4 – Strzelecki and Manna Gum habitat in Block 44 (Latrobe River)

INDIGENOUS DESIGN

ENVIRONMENTAL MANAGEMENT

INDIGENOUS DESIGN
1635 Main Rd, Research, VIC, 3095
Melbourne | Morwell | Wonthaggi

P (03) 9437 0555
E nicole@iddesign.com.au

ABN: 64 081 044 144

www.iddesign.com.au