

AREA Environmental & Heritage Consultants ABN: 29 616 529 867

- ✓ Environmental impact assessments and approvals (REF)
- ✓ Ecology, Aboriginal and historic heritage assessments
- ✓ Biodiversity assessment method (BAM) assessments (BDAR) and offsetting (BSSAR)
- ✓ Plans of management (CEMP, BMP, ACHMP)
- ✓ Aboriginal community engagement
- ✓ Stakeholder and community engagement
- ✓ Peer review / project briefs / budgeting assistance / expert witness
- ✓ Commercial external landscape designs for built or natural environments
- ✓ Vegetation Management Plans
- ✓ Stakeholder and community engagement
- ✓ Peer review / project briefs / budgeting assistance



Biodiversity Management Plan
Tomingley Gold Operations
Tomingley Gold Operations Pty Ltd
MAY 2025



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Document controls

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Contents

Document controls	i
Contents	iii
Tables	v
Figures.....	vi
Glossary	vii
1. Purpose.....	1
1.1. Background	1
1.2. Purpose.....	1
1.3. Scope.....	5
1.4. Legal requirements.....	5
1.4.1. Environmental Planning and Assessment Act 1979	5
1.4.2. Biodiversity Conservation Act 2016.....	14
1.4.3. Biosecurity Act 2015	14
1.5. Environmental objectives.....	15
2. Baseline environment	16
2.1. Land use history	16
2.2. Vegetation	16
2.2.1. Vegetation communities.....	19
2.2.2. Threatened ecological communities.....	21
2.2.3. Vegetation integrity	21
2.3. Habitat suitability	22
2.3.1. Habitat features	22
2.3.2. Habitat connectivity.....	23
2.3.3. Water sustainability.....	23
2.3.4. Flight path integrity	23
2.4. Threatened species.....	26
2.5. Threats.....	32
2.5.1. Pests	32
2.5.2. Disease	33
2.5.3. Human disturbance.....	33
3. Biodiversity management.....	34

3.1.	Biodiversity outcomes	34
3.1.1.	Offset biodiversity impacts	34
3.2.	Integrated approach to implementation	34
3.3.	Biodiversity management zones.....	35
3.3.1.	TGEP Approved Disturbance Area.....	35
3.3.2.	TGEP Operational Land.....	35
3.3.3.	Agricultural Land.....	35
3.3.4.	TGO Offsets	36
3.3.5.	TGEP Offsets.....	36
3.4.	Biodiversity management measures.....	38
3.4.1.	TGEP Approved Disturbance Area management measures.....	38
3.4.2.	TGEP Operational Land management measures.....	43
3.4.3.	Agricultural Land management measures.....	48
3.4.4.	TGO Offset management measures	51
3.4.5.	TGEP Offset management measures	52
3.5.	Training and awareness	54
4.	Assurance framework.....	55
4.1.	Managing uncertainty	55
4.1.1.	Evidence based decision making.....	55
4.1.2.	Key uncertainties	55
4.2.	Biodiversity monitoring program	55
4.2.1.	Pre-clearing survey.....	56
4.2.2.	Vegetation integrity monitoring.....	57
4.2.3.	Threatened flora	59
4.2.4.	Pest plants.....	59
4.2.5.	Fauna monitoring.....	60
4.3.	Adaptive management strategies	63
4.3.1.	Trigger, Action, Response Plan.....	63
4.4.	Incident management.....	67
4.4.1.	Non-compliance protocol	67
4.4.2.	Complaint management.....	67
5.	Governance	68
5.1.	Responsibilities	68
5.2.	Risk management	68
5.3.	Conservation bond	71

5.4. Reporting.....	71
5.4.1. Annual reporting	71
5.4.2. Incident reporting.....	72
5.5. Independent environmental audit	73
5.6. Information management.....	73
5.7. Review and improvement.....	73
5.7.1. Authorship	74
5.7.2. Consultation.....	74
5.7.3. Revision protocol	75
5.7.4. Revision register.....	75
References	76
Appendix A: Consultation log.....	77
Appendix B: Pest animal control program.....	79
Feral cat (<i>Felis catus</i>)	79
European red fox (<i>Vulpes vulpes</i>)	80
Goat (<i>Capra hircus</i>)	81
Feral pig (<i>Sus scrofa</i>).....	82
European rabbit (<i>Oryctolagus cuniculus</i>)	84
Appendix C: Pest plant control program.....	86
Appendix D: Property Vegetation Plan (TGO Offsets).....	93
Appendix E: Fauna handling procedure.....	100
Appendix F: Threatened fauna key breeding period	102

Tables

Table 1-1: Relevant conditions of SSD 9176045	5
Table 1-2: Biodiversity Management Measures from EIS (AREA, 2021, p. 132).....	13
Table 2-1: Vegetation communities recorded on the Site.....	19
Table 2-2: Threatened ecological communities managed on Site	21
Table 2-3: Vegetation integrity scores for PCTs in 2024	21
Table 2-4: Habitat features for threatened species recorded on Site.	23
Table 2-5: Threatened species with potential to occur on Site.	26
Table 3-1: TGEF Approved Disturbance Area management measures.....	38
Table 3-2: TGEF Operational Land management measures	43

Table 3-3: Agricultural Land management measures.....	48
Table 3-4: TGO Offset management measures.....	51
Table 3-5: TGEP Offset management measures	52
Table 4-1: Pre-clearance survey method.....	56
Table 4-2: Vegetation integrity monitoring points GDA94 zone 55	58
Table 4-3: Vegetation integrity monitoring survey method.	58
Table 4-4: Threatened flora monitoring method.....	59
Table 4-5: Pest plant monitoring methods.	60
Table 4-6: Threatened fauna monitoring method.....	60
Table 4-7: Pest animal monitoring techniques.....	61
Table 4-8: Trigger, Action, Response Plan.....	63
Table 5-1: Roles and responsibility for implementing this BioMP.	68
Table 5-2: Risk categories for biodiversity matters.	69
Table 5-3: Risk likelihood rating.....	70
Table 5-4: Risk assessment matrix.....	70
Table 5-5: Controlled risk level action table.....	70
Table 5-6: Qualifications and experience of personnel preparing the BioMP	74
Table 5-7: Consultation log.....	74
Table 5-8: Revision register.....	75

Figures

Figure 1-1: Regional context of the project.....	3
Figure 1-2: Detailed overview of the Tomingley Gold Extension Project (Source: R.W Corkery)	4
Figure 2-1: Land use history of the Site.....	17
Figure 2-2: Native vegetation extent in the landscape assessment area.	18
Figure 2-3: Vegetation communities retained on the Site and location of VI monitoring plots.	20
Figure 2-4: Non-native vegetation associated habitat features recorded on the Site.	24
Figure 2-5: Habitat connectivity in the local landscape.	25
Figure 2-6: Threatened species recorded on the Site.....	31
Figure 3-1: Biodiversity management zones	37
Figure 4-1: Fauna monitoring locations established on the Site.	62

Glossary

Term	Definition
AREA	AREA Environmental & Heritage Consultants Pty Ltd
BC Act	<i>Biodiversity Conservation Act 2016</i>
BioMP	Biodiversity Management Plan (this document)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
Landscape assessment area	A 1500m buffer applied to the extent of the Site
Project	Tomingley Gold Operations as approved by SSD 9176045
Proponent	Tomingley Gold Operations Pty Ltd
SAR Mine Site	The San Antonio Roswell Mine Site area, as depicted in Figure 1-2
Site	The boundary limit of Alkane controlled land as shown on Figure 1-2, which includes the TGO Mine Site Boundary and SAR Mine Site Boundary, as well as land managed for agriculture and environmental management
SSD 9176045	Conditional approval granted under section 4.38 of the EP&A Act.
TGEP	Tomingley Gold Extension Project conditionally approved under SSD 9176045.
TGEP ADA	The 'approved disturbance area' where disturbance to biodiversity values is permitted under SSD 9176045.
TGEP Offset	A biodiversity management zone where the proponent aims to generate and retire part of the biodiversity credit obligation associated with SSD 9176045.
TGO	Tomingley Gold Operations (the proponent)
TGO Mine Site	The Tomingley Gold Operations Mine Site area, as depicted in Figure 1-2
TGO Offsets	Areas protected pursuant to Conservation Property Vegetation Plan 18458.

1. Purpose

AREA Environmental & Heritage Consultants Pty Ltd (AREA) have prepared this Biodiversity Management Plan (BioMP) following the approval of the Tomingley Gold Extension Project State Significant Development (SSD) 9176045 (the project).

1.1. Background

Tomingley Gold Operations Pty Ltd (the proponent) owns and operates the Tomingley Gold Mine, approximately 50 kilometres southwest of Dubbo in the Narromine Shire Council local government area (see Figure 1-1). The extension into the new open cut and underground workings in the identified San Antonio Roswell deposit commenced construction in 2024. Collectively, the Tomingley Gold Extension Project (the project) comprises the following activities:

- continued operation of the existing Tomingley Gold Mine,
- realignment of the Newell Highway,
- construction of the San Antonio Roswell (SAR) Mine,
- mining operations in the SAR Mine; and,
- cessation of mining operations (mine closure).

A detailed map of the various components of the project site is provided in Figure 1-2 (the Site).

The Tomingley Gold Mine previously operated under Major Project (MP) 09_0155 granted on 24 July 2012 which was surrendered in March 2025 as required under State Significant Development (SSD) 9176045. The SSD application was approved on 21 February 2023, with subsequent Modifications 1 & 2 being approved on the respective dates, MOD 1 - September 2023, and MOD 2 - July 2025. The extension project was approved by a delegate of the NSW Minister for Planning under section 4.38 of the *Environmental Planning and Assessment Act 1979* (EP&A Act)).

1.2. Purpose

This BioMP has been prepared to the satisfaction of the Planning Secretary. The following obligations related to biodiversity outcomes across the Site have been extracted from conditions B53-B64 of SSD 9176045 (see also Table 1-1):

- retire biodiversity credits in accordance with the NSW Biodiversity Offsets Scheme,
- implement the biodiversity offset strategy,
- minimise impacts within the approved disturbance areas (TGEP ADAs),
- maximise the salvage of biodiversity resources for beneficial reuse,
- enhance the quality of existing vegetation and fauna habitat,
- manage and protect the remnant vegetation and fauna habitat on site,
- manage the collection and propagation of seed,
- manage grazing and agriculture on the site,
- manage any potential conflicts with Aboriginal heritage values,
- manage bushfire hazards,
- control erosion,
- control pest plants and animals; and,
- control human access to vegetated or revegetated areas.

SSD 9176045 also requires a seasonally based program across the Site to monitor and report on:

- the effectiveness of the above measures,
- progress against detailed performance indicators and completion criteria,
- improvements that could be implemented to improve biodiversity outcomes; and,
- details of who will be responsible for monitoring, reviewing, and implementing the plan.

Figure 1-1: Regional context of the project

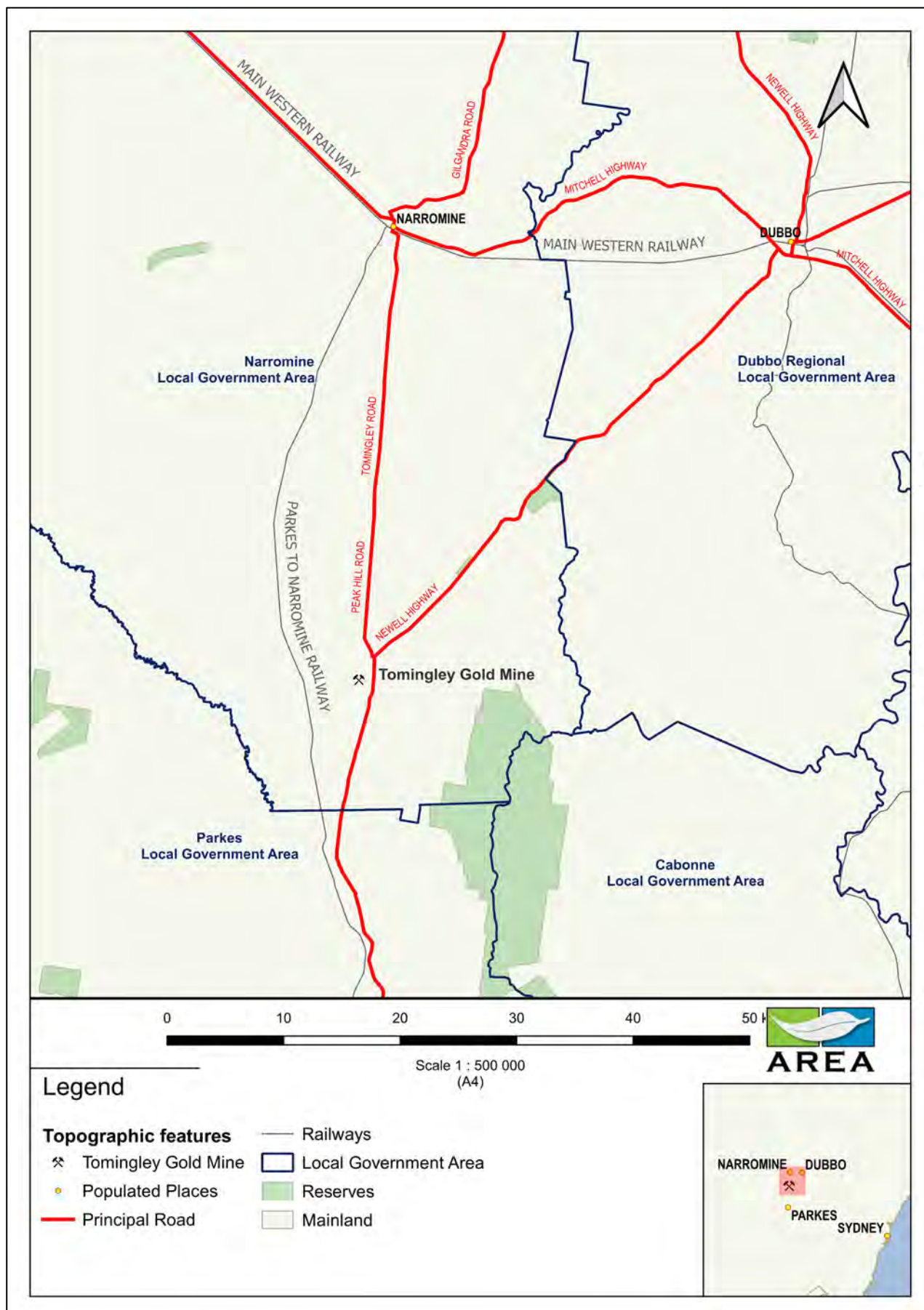
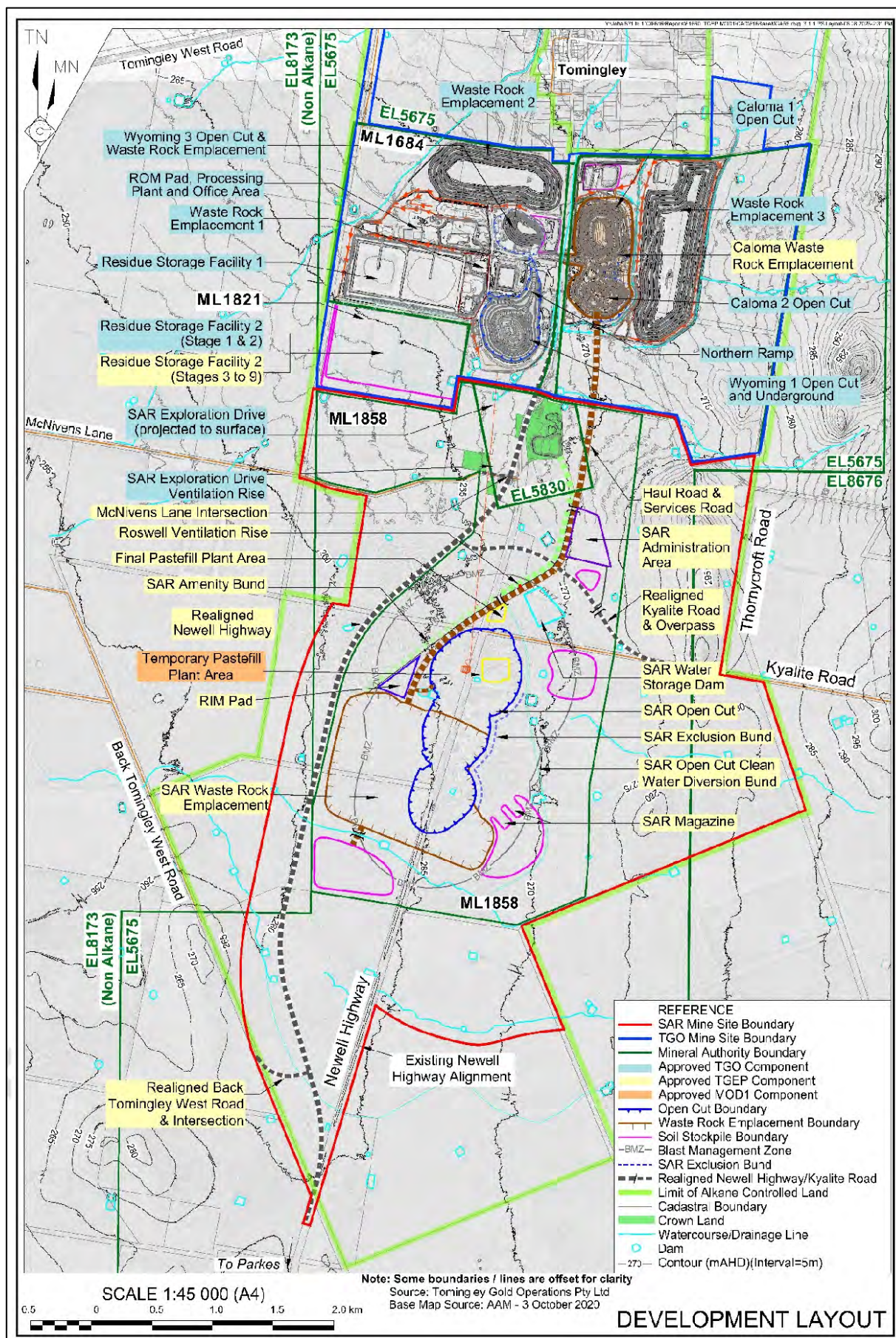


Figure 1-2: Detailed overview of the Tomingley Gold Extension Project (Source: R.W Corkery)



1.3. Scope

This BioMP is comprised of the following core components:

- **Operational context** – Chapters 1 and 2 of this document set out the legal, administrative, operational, and environmental context of the BioMP,
- **Management measures** – Chapter 3 outlines specific actions to be taken to manage relevant environmental variables, in compliance with the requirements,
- **Assurance framework** – Chapter 4 sets out the key uncertainties and risks associated with implementing the BioMP, responses to these, and potential adaptations to changing circumstances; and,
- **Governance framework** – Chapter 5 encompasses the system by which this BioMP is controlled and operates, as well as the mechanisms by which it, and its people, are held to account. Decision making, risk management, compliance, and administration are all elements of governance.

This BioMP is a 'living document' which means it is continually updated to reflect adaptations and to incorporate improvements. The framework for controlling changes and revisions to this document can be found in Section 5.7.3.

1.4. Legal requirements

The proponent has obligations under various environmental and planning legislation to manage the impact of the project on the environment.

1.4.1. Environmental Planning and Assessment Act 1979

The project was assessed according to the Secretaries Environmental Assessment Requirements (SEARs); an Environmental Impact Statement (EIS) was prepared, and approval was granted (SSD 9176045) pursuant to section 4.38 of the EP&A Act on 21 February 2023.

Consent conditions

SSD 9176045 stipulates the required criteria construction and operational activities at the Site must comply with. Condition B62 sets out the core requirements of this BioMP. Relevant conditions associated with this approval, and where they have been addressed in this document, are reproduced in Table 1-1. The biodiversity matters for the Newell Highway Realignment are addressed in the Newell Highway Realignment CEMP.

Table 1-1: Relevant conditions of SSD 9176045
 (Red type represents the August 2023 Modification [MOD 1])
 (Blue Type represents the July 2025 Modification [MOD 2])

Condition ref.	Condition	Where addressed
Administrative conditions		
A1	In addition to meeting the specific performance measures and criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	Chapters 3 to 5

Condition ref.	Condition	Where addressed
A2	The development must only be carried out: a) in compliance with the conditions of this consent; b) in accordance with all written directions of the Planning Secretary; c) generally in accordance with the EIS; and d) generally in accordance with the Development Layout.	a) Table 1-1 b) Section 5.5 c) Table 1-2 d) Chapter 3
A19	Where conditions of this consent require consultation with an identified party, the Applicant must: a) consult with the relevant party prior to submitting the subject document for approval; and b) provide details of the consultation undertaken to the Planning Secretary, including: i. the outcome of that consultation, matters resolved and unresolved; and ii. details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	Section 5.7.2 and Appendix A
A30	The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Section 3.5 and section 5.1

Biodiversity Offsets

B53

The Applicant must retire the biodiversity credits specified in **Table 5** in accordance with the Biodiversity Offsets Scheme of the *Biodiversity Conservation Act 2016*.

Table 5: Ecosystem Credit Requirements

Credit Type	Credits Required						
	Stage 1a	Stage 1b(i)	Stage 1b(ii) Category 1 Land	Stage 1b(ii)	Stage 2	Stage 3	Total
PCT 55 – Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions	123	44	0	181	0	192	540
PCT 55 – Scattered Trees	2	5		1	0	4	12
PCT 82 – Western Grey Box - Poplar Box - White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion	54	202		195	140	112	703
PCT 82 – Scattered Trees	8	16		6	0	0	30
PCT 201 – Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion	98	65		258	0	4	425
PCT 201 – Scattered Trees	1	0		0	0	0	1
PCT 27 – Weeping Myall open woodland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion	0	13		0	0	0	13
Total	286	345	0	641	140	312	1,724

Section
3.1.1

Condition ref.	Condition	Where addressed																					
B54	Prior to disturbance that would impact on biodiversity values within Vegetation Clearing Area Stage 1a (as shown on Figure 1 in Appendix 4), the Applicant must retire the Stage 1a biodiversity credits as specified in Table 5 .	Section 3.1.1																					
B54A	Prior to disturbance that would impact on biodiversity values within Vegetation Clearing Area Stage 1b(i) (as shown on Figure 2 in Appendix 4), except as specified in B54AA, the Applicant must retire the Stage 1b(i) biodiversity credits as specified in Table 5 .	Section 3.1.1																					
B54AA	Category 1 Land within Stage 1b(i) may be disturbed where there would be no direct or indirect impacts on biodiversity values in areas where credits are required to be retired.																						
B54B	Prior to disturbance that would impact on biodiversity values with Vegetation Clearing Area Stage 1b(ii) (as shown on Figure 2 in Appendix 4), the Applicant must retire the Stage 1b(ii) biodiversity credits as specified in Table 5 .																						
B55	Prior to disturbance that would impact on biodiversity values within Vegetation Clearing Area Stage 2 (as shown on Figure 2A in Appendix 4), the Applicant must retire the Stage 2 biodiversity credits as specified in Table 5 .	Section 3.1.1																					
B56	Prior to disturbance within Vegetation Clearing Area Stage 3 (as shown on Figure 2A in Appendix 4), the Applicant must retire the Stage 3 biodiversity credits as specified in Table 5 .	Section 3.1.1																					
B57	By 31 May 2023, unless otherwise agreed by the Planning Secretary, the Applicant must retire the biodiversity credits specified in Table 6 below. The retirement of credits must be carried out in accordance with the NSW Biodiversity Offsets Scheme of the <i>Biodiversity Conservation Act 2016</i>. Table 6: Ecosystem Credit Requirements – imposed under Mod 5 of project approval MP09_0155 <table><tr><th>Vegetation Type</th><th>Credits Required</th></tr><tr><td>PCT 82 Western Grey Box - Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion</td><td>103</td></tr><tr><td>PCT 201 Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion</td><td>49</td></tr><tr><td>Total</td><td>152</td></tr></table>	Vegetation Type	Credits Required	PCT 82 Western Grey Box - Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion	103	PCT 201 Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion	49	Total	152	Section 3.1.1													
Vegetation Type	Credits Required																						
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PCT 201 Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion	49																						
Total	152																						
B58	The Applicant must implement the biodiversity offset strategy outlined in Table 7, and shown in Figure 3 in Appendix 4, to the satisfaction of the Planning Secretary. Table 7: Biodiversity Offsets – imposed under project approval MP09_0155 <table><tr><th>Community Type</th><th>Offset Area to be Conserved (ha)</th><th>Remnant Extension (Protection and Ameliorative Planting) (ha)</th></tr><tr><td>Inland Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams (Benson 76)</td><td>21.1</td><td>21.5</td></tr><tr><td>River Red Gum riverine woodland forest (Benson 78)</td><td>13.1</td><td>13.5</td></tr><tr><td>Fuzzy Box – Inland Grey Box on alluvial brown loam soils (Benson 201)</td><td>5.0</td><td>26.0</td></tr><tr><td>Poplar Box – Belah woodland on clay alluvial plains (Benson 56)</td><td>1.9</td><td>0</td></tr><tr><td>Belah/ Black Oak Western Rosewood, Wilga Community (Benson 57)</td><td>25.5</td><td>0</td></tr><tr><td>TOTAL</td><td>66.6</td><td>61.0</td></tr></table>	Community Type	Offset Area to be Conserved (ha)	Remnant Extension (Protection and Ameliorative Planting) (ha)	Inland Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams (Benson 76)	21.1	21.5	River Red Gum riverine woodland forest (Benson 78)	13.1	13.5	Fuzzy Box – Inland Grey Box on alluvial brown loam soils (Benson 201)	5.0	26.0	Poplar Box – Belah woodland on clay alluvial plains (Benson 56)	1.9	0	Belah/ Black Oak Western Rosewood, Wilga Community (Benson 57)	25.5	0	TOTAL	66.6	61.0	Section 3.1.1
Community Type	Offset Area to be Conserved (ha)	Remnant Extension (Protection and Ameliorative Planting) (ha)																					
Inland Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams (Benson 76)	21.1	21.5																					
River Red Gum riverine woodland forest (Benson 78)	13.1	13.5																					
Fuzzy Box – Inland Grey Box on alluvial brown loam soils (Benson 201)	5.0	26.0																					
Poplar Box – Belah woodland on clay alluvial plains (Benson 56)	1.9	0																					
Belah/ Black Oak Western Rosewood, Wilga Community (Benson 57)	25.5	0																					
TOTAL	66.6	61.0																					
B59	The Applicant must maintain an appropriate long-term security for the offset areas identified in Table 7 to the satisfaction of the Planning Secretary.	Section 3.1.1 Section 3.3.4 Appendix D																					

Condition ref.	Condition	Where addressed
Conservation Bond		
B60	The Applicant must maintain a conservation bond with the Department to ensure that the biodiversity offset strategy identified in Table 7 is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan. The sum of the bond must cover the full cost of implementing the biodiversity offset strategy and be verified by a suitably qualified rehabilitation specialist or quantity surveyor. If the biodiversity offset strategy is implemented to the satisfaction of the Secretary, the Secretary will release the conservation bond. If the biodiversity offset strategy is not implemented to the satisfaction of the Secretary, the Secretary will call in all or part of the conservation bond and arrange for the satisfactory implementation of the biodiversity offset. If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all or part of the conservation bond and arrange for the satisfactory completion of the relevant works.	Section 5.3
B61	The Conservation Bond must be reviewed and if required, an updated bond must be lodged with the Department within 3 months following: a) any update or revision to the Biodiversity Management Plan, b) completion of an Independent Environmental Audit; or, c) a request by the Planning Secretary.	Section 5.3
Biodiversity Management Plan		
B62	The Applicant must prepare a Biodiversity Management Plan for the mine development to the satisfaction of the Planning Secretary. This plan must:	Appendix A
	a) be prepared by a suitably qualified and experienced person/s and in consultation with BCS;	Section 5.7.1
	b) describe how biodiversity management would be integrated with similar measures within other management plans, including the Rehabilitation Strategy referred to in condition B84;	Section 3.2
	c) describe the short, medium, and long term measures that would be implemented to: i. manage the remnant vegetation and fauna habitat on the site; and ii. implement the biodiversity offset strategy (referred to in condition B58), including detailed measurable and quantifiable performance and completion criteria, and triggers for remedial action.	Chapters 3 and 4
	d) describe the measures to be implemented within the approved disturbance areas to: i. minimise the amount of clearing, ii. minimise impacts on fauna, including undertaking pre-clearance surveys; and, iii. maximise the salvage of resources, including tree hollows, vegetation and soil resources, for beneficial reuse, including fauna habitat enhancement.	Chapters 3 and 4

Condition ref.	Condition	Where addressed
	e) describe the measures to be implemented on the site to: i. enhance the quality of existing vegetation and fauna habitat; ii. restore native vegetation and fauna habitat, including assisted natural regeneration, targeted vegetation establishment and the introduction of naturally scarce fauna habitat features (where necessary); iii. manage any potential conflicts with Aboriginal heritage values; iv. protect vegetation and fauna habitat outside of the approved disturbance area; v. manage the collecting and propagating seed; vi. minimising the impacts on fauna on site, including pre-clearance surveys and minimising the potential exposure to tailings; vii. control weeds and feral pests; viii. control erosion; ix. managing grazing and agriculture on site; x. control access to vegetated and revegetated areas; and xi. manage bushfire hazards.	Chapters 3 and 4
	f) include a seasonally-based program to monitor and report on: i. the effectiveness of the above measures; ii. progress against detailed performance indicators and completion criteria, and identify improvements that could be implemented to improve biodiversity outcomes.	Chapter 4
	g) include details of who would be responsible for monitoring, reviewing, and implementing the plan.	Chapter 5
B63	The Applicant must not commence construction of the SAR Mine until the Biodiversity Management Plan is approved by the Planning Secretary.	Appendix A
B64	The Applicant must implement the approved Biodiversity Management Plan.	Section 5.1 and Section 5.4
Adaptive management		
D4	The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and performance measures in this consent. Any exceedance of these criteria or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria or performance measures has occurred, the Applicant must, at the earliest opportunity: a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not reoccur. b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and c) implement reasonable remediation measures as directed by the Planning Secretary.	Section 4.3
Management Plan Requirements		
D5	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include where relevant: a) summary of relevant background or baseline data;	Chapter 2

Condition ref.	Condition	Where addressed
	b) details of: i. the relevant statutory requirements (including any relevant approval, licence or lease conditions); ii. any relevant limits or performance measures and criteria; and iii. the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 1.4 and Chapter 4
	c) any relevant commitments or recommendations identified in the document/s listed in condition A2(c);	Table 1-2
	d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Chapter 3
	e) a program to monitor and report on the: i. impacts and environmental performance of the development; and ii. effectiveness of the management measures set out pursuant to paragraph (d);	Chapter 4
	f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 4.3
	g) a program to investigate and implement ways to improve the environmental performance of the development over time;	Chapter 4 and Section 5.7.3
	h) a protocol for managing and reporting any: i. incident, non-compliance or exceedance of any impact assessment criterion or performance measure; ii. complaint; or iii. failure to comply with other statutory requirements;	Section 4.4 Section 5.4.2
	i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and	Section 5.4.1
	j) a protocol for periodic review of the plan.	Section 5.7.3
Revision of strategies, plans and programs		
D6	Within three months of: a) the submission of an incident report under condition D8; b) the submission of an Annual Review under condition D10; c) the submission of an Independent Environmental Audit under condition D12; or d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise); e) notification of a change in development phase under condition A5; or f) a direction of the Secretary under condition A3, the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.	Section 5.7.3

Condition ref.	Condition	Where addressed
D7	If necessary, to either improve the environmental performance of the development or cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review. Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.	Section 5.7.3
Incident notification		
D8	The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 8.	Section 5.4.2
D9	The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance. A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Section 4.4.1
Annual Review		
D10	By the end of September each year after the date of physical commencement of development under this consent, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must: - describe the development (including any rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year; - include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, including a comparison of these results against the: - relevant statutory requirements, limits or performance measures/criteria; - requirements of any plan or program required under this consent; - monitoring results of previous years; and - relevant predictions in the document/s listed in condition A2(c); - identify any non-compliance or incident which occurred in the previous financial year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence; - evaluate and report on compliance with the performance measures, criteria and operating conditions of this consent; - identify any trends in the monitoring data over the life of the development;	Section 5.4.1 Section 5.7.3 Chapter 4

Condition ref.	Condition	Where addressed
	f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and g) describe what measures will be implemented over the next financial year to improve the environmental performance of the development.	
Monitoring and Environmental Audits		
D12	Within one year of the date of physical commencement of development under this consent, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The audit must: a) be prepared in accordance with the Independent Audit Post Approval Requirements (NSW Government 2020); and b) be submitted, to the satisfaction of the Planning Secretary, within two months of undertaking the independent audit site inspection, unless otherwise agreed by the Planning Secretary.	Section 5.5
D13	In accordance with the specific requirements of the Independent Audit Post Approval Requirements (NSW Government 2020), the Applicant must: a) review and respond to each Independent Audit Report prepared under condition D12 of this consent; b) submit a response to the Planning Secretary and any other NSW agency that requests it, together with a timetable for the implementation of the recommendations of the Independent Audit Report; c) implement the recommendations to the satisfaction of the Planning Secretary; and d) make each Independent Audit Report and response to it publicly available no later than 60 days after submission to the Planning Secretary.	Section 5.5
D14	Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit. For the purposes of this condition, as set out in the EP&A Act, “monitoring” means monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an “environmental audit” means a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.	Noted at Table 1-1
D15	Within three months of the date of physical commencement of development under this consent, until the completion of all rehabilitation required under this consent, the Applicant must: a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website: i. the document/s listed in condition A2(c); ii. all current statutory approvals for the development; iii. all approved strategies, plans and programs required under the conditions of this consent; iv. minutes of CCC meetings;	Section 5.6

Condition ref.	Condition	Where addressed
	v. regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent; vi. a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; vii. a summary of the current phase and progress of the development; viii. contact details to enquire about the development or to make a complaint; ix. a complaints register, updated monthly; x. the Annual Reviews of the development; xi. audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; and xii. any other matter required by the Planning Secretary; and b) keep such information up to date, to the satisfaction of the Planning Secretary.	

Environmental Impact Statement

Condition A2 of the consent requires the development to be carried out generally in accordance with the EIS. The EIS contains proposed management measures relating to biodiversity which are consolidated here in Table 1-2 and incorporated into the management measures provided in Chapter 3.

Table 1-2: Biodiversity Management Measures from EIS (AREA, 2021, p. 132)

Item	Recommendation	Where addressed
Site personnel induction	Ensure all construction staff working on the project are inducted on: • Site environmental procedures (i.e. vegetation management, sediment and erosion control, protective fencing, noxious weeds, hygiene protocols, ethical procedures for handling fauna displaced on the site). • What to do in case of environmental emergency (chemical spills, fire, injured fauna). • Key contacts in case of environmental emergency. • How to reduce the risk of vehicle strike to fauna.	Section 3.4
Site planning	• Locate temporary infrastructure (set down areas, access tracks etc.) in cleared areas (existing access tracks and hardstand) or areas assessed by this BDAR. There is to be no additional impact to vegetation.	Section 3.3
Identification of clearing limits	• Accurately and clearly mark out the limits of clearing (where appropriate) and the vegetation to be retained outside of the development site. • Regular inspections should be undertaken to ensure all retained vegetation/fauna habitat is clearly marked and that fencing is in place, where appropriate.	Section 3.3

Item	Recommendation	Where addressed
Protection of fauna during clearing of vegetation, rock removal and crevice disturbance	• Avoid clearing native vegetation in Spring. • Engage a spotter catcher to be present when felling trees with hollows or potentially in use nests. • Implement staged habitat removal to allow fauna to vacate if present. • Respond to (e.g. rescue, relocate) fauna detected during the clearing process (refer to Fauna Handling and Rescue Procedure in Appendix E) [of this BDAR].	Section 3.3
Weed management	• Ensure any machinery arriving on site be inspected for any foreign soil or plant matter/weed material and be washed down before entering the site. • Weeds should be controlled within the work area according to the requirements of the <i>Biosecurity Act 2015</i>. • Any significant weeds which are identified in the Development Footprint must be disposed of appropriately.	Section 3.3
Vehicle strike	• Low speed limits in place. • Install warning signs of known wildlife crossings. • Reporting requirements for any incidents of vehicle strikes. • Ensure staff are inducted on how to reduce risk to fauna from vehicle strike.	Section 3.3

1.4.2. Biodiversity Conservation Act 2016

The purpose of the *Biodiversity Conservation Act 2016* (BC Act) is to maintain a healthy, productive, and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development (described in section 6(2) of the *Protection of the Environment Administration Act 1991*).

Under the BC Act, the proponent must not:

- harm an animal that is protected (native), a threatened species, or part of a threatened ecological community,
- pick a plant that is a protected plant (native), a threatened species, or part of a threatened ecological community; or,
- damage the habitat of a threatened species or threatened ecological community,

unless the act was necessary for the carrying out of a development in accordance with a development consent, within the meaning of the EP&A Act (see section 1.4.1 of this BioMP).

Chapter 3 of this BioMP provides management measures to ensure the proponent limits its impact to biodiversity approved under SSD 9176045.

1.4.3. Biosecurity Act 2015

Under the *Biosecurity Act 2015* (NSW) pests are any species (other than native species) that present a biosecurity threat. A pest means a plant or animal (other than a human) that has an adverse effect on, or is suspected of having an adverse effect on, the environment, the economy, or the community because it has the potential to:

- out-compete other organisms for resources, including food, water, nutrients, habitat, and sunlight, or
- prey or feed on other organisms, or

- transmit disease to other organisms, or
- cause harm to other organisms through its toxicity, or
- otherwise reduce the productivity of agricultural systems or the value of agricultural products, or
- damage infrastructure, or
- reduce the amenity or aesthetic value of premises, or
- harm or reduce biodiversity.

General biosecurity duty

Under Part 3 of the *Biosecurity Act 2015*, the proponent (and all individuals) has a general biosecurity duty:

Any person who deals with biosecurity matter or a carrier and who knows, or ought reasonably to know, the biosecurity risk posed or likely to be posed by the biosecurity matter, carrier or dealing has a biosecurity duty to ensure that, so far as is reasonably practicable, the biosecurity risk is prevented, eliminated, or minimised.

Pests have been previously recorded on the Site; and require ongoing management. The proponent has a strategy to prevent and manage biosecurity risks on the Site (see Chapter 3, Appendix B and Appendix C).

1.5. Environmental objectives

The proponent has committed to the following environmental, social and governance (ESG) standards relating to biodiversity:

- Manage water, emissions, and waste responsibly,
- Enhance biodiversity and land capability to offset our impact; and,
- Rehabilitate the land we disturb.

The proponent aims to leave their mining sites as stable functioning ecosystems despite the inevitable change in landform. The proponent creates biodiversity offsets and carefully plans progressive rehabilitation, monitoring and management actions. Once the mining process is over, mine infrastructure is removed, and the final landform is rehabilitated to be left in a long-term stable condition.

2. Baseline environment

Condition D5(a) of SSD 9176045 requires a summary of relevant background or baseline data for the Site. This chapter describes relevant biodiversity values managed under this BioMP. The Site (mapped in Figure 1-2) is about 3,366 hectares.

2.1. Land use history

Significant portions of the Site have been historically disturbed by mixed agriculture, rural settlement, mining, and transport corridors.

The mid and upper native vegetation strata have been mostly cleared, and numerous exotic pastoral and other flora species have been introduced which now dominate the landscape. Land and vegetation clearance also occurred directly from historic mining activity, such as the McPhail Gold Mine which operated throughout the late 1800's and early 1900's. More recently there has been disturbance and clearing for the construction of Tomingley Gold Mine. Figure 2-1 shows the land use history of the Site in the 1990's.

There is approximately twelve percent cover of native vegetation within the landscape assessment area (within 1500 metres), Figure 2-2 shows the proportion of native vegetation cover.

2.2. Vegetation

Native vegetation is a core biodiversity value protected under the NSW BC Act and *Biodiversity Conservation Regulation 2017*. Condition B62 of SSD 9176045 requires the proponent to manage and protect remnant vegetation on the Site.

Figure 2-1: Land use history of the Site.

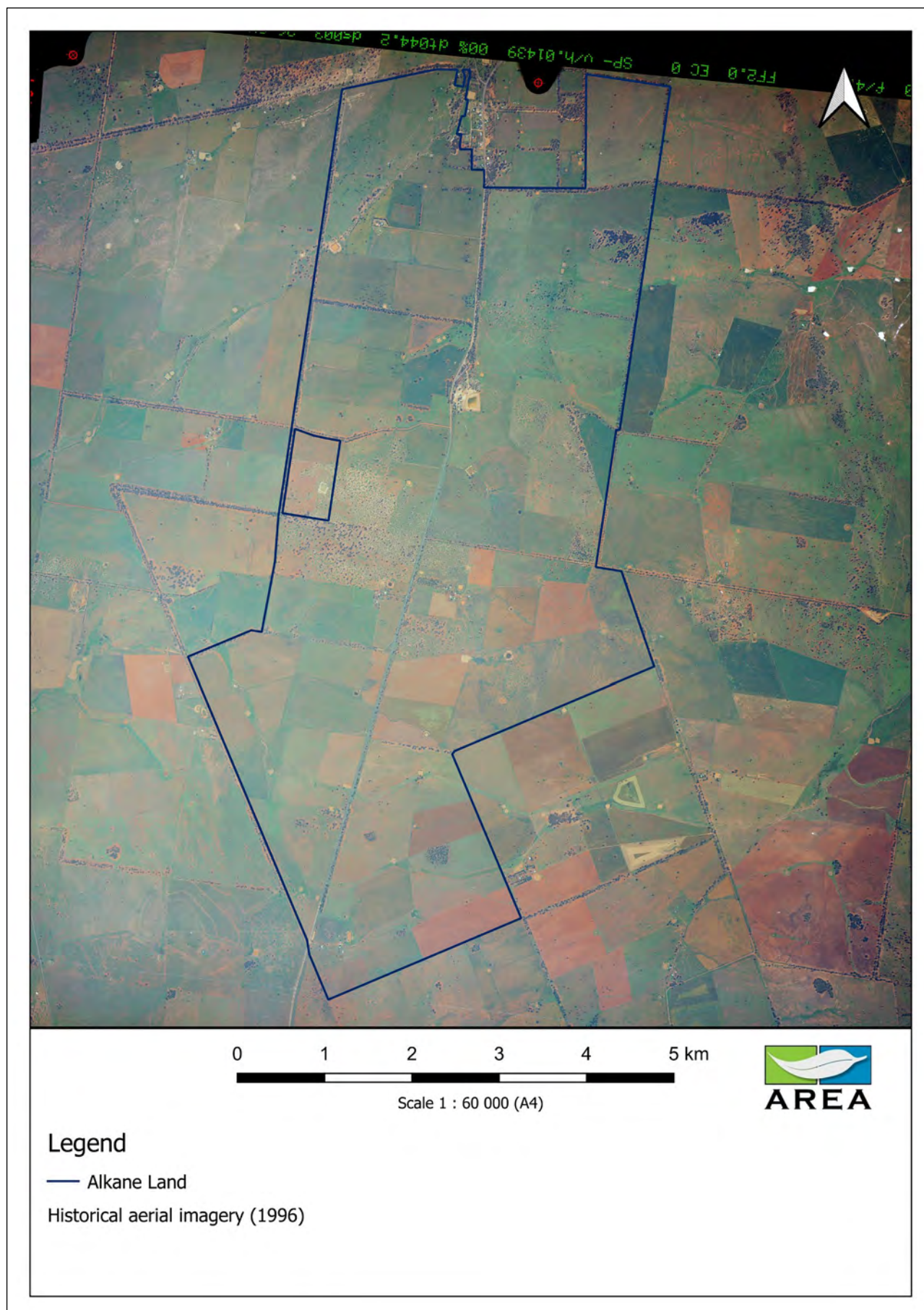
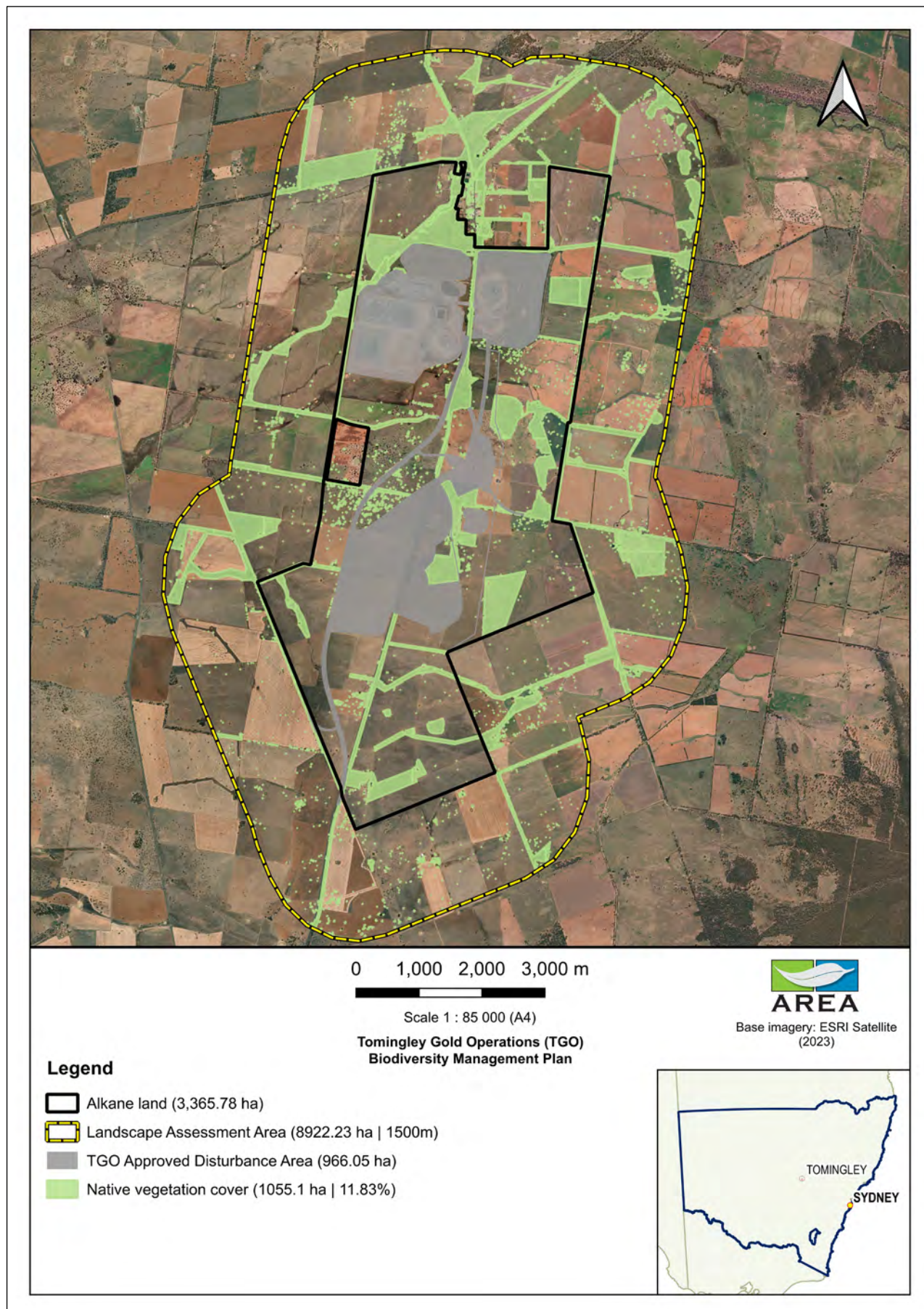


Figure 2-2: Native vegetation extent in the landscape assessment area.



2.2.1. Vegetation communities

Plant Community Types (PCTs) are the master community-level typology used to classify vegetation communities in NSW. PCTs on the Site are listed in Table 2-1. The values provided in the column “Extent on Site (ha)” are for vegetation communities which are retained on Site following clearing within the approved disturbance area. The association of PCTs with Threatened Ecological Communities (TECs) is also provided in this table.

Figure 2-3 shows retained native vegetation on the Site and location of ongoing Vegetation Integrity (VI) monitoring points (see Section 2.2.3).

Table 2-1: Vegetation communities recorded on the Site.

PCT ID	PCT Name	Conservation Status	Extent on Site (ha)
55	Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions	-	132.13
56	Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW	-	131.05
57	Belah/Black Oak - Western Rosewood - Wilga woodland of central NSW including the Cobar Peneplain Bioregion	-	28.95
76	Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions	TEC	43.49
77	Yarran shrubland of the NSW central to northern slopes and plains	-	52.13
78	River Red Gum riparian tall woodland / open forest wetland in the Nandewar Bioregion and Brigalow Belt South Bioregion		30.90
82	Western Grey Box - Poplar Box - White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion	TEC	244.17
201	Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion	TEC / SAI	261.35
217	Mugga Ironbark - Western Grey Box - cypress pine tall woodland on foot slopes of low hills in the NSW South Western Slopes Bioregion	-	32.9
Total			957.07 ha

Vegetation communities have been monitored within the TGO existing offset area (Figure 2-3) for over 10 years. Three additional monitoring points have been established for vegetation zones within the Site that are not included in the proposed Tomingley Gold Operations Biodiversity Stewardship Agreement (TGO BSA) (Figure 2-3).

Figure 2-3: Vegetation communities retained on the Site and location of VI monitoring plots.



0 1,000 2,000 3,000 m

Scale 1 : 55 000 (A4)

**Tomingley Gold Operations (TGO)
Biodiversity Management Plan**



Base imagery: ESRI Satellite
(2023)

Legend

- Alkane land (3,365.78 ha)
- TGO Approved Disturbance Area (966.05 ha)
- TGO Biodiversity Stewardship Site (292.74 ha)
- TGO Existing Offsets (164.56 ha)
- Monitoring points

Plant Community Types

- Zone 1: PCT55 (Moderate)

- Zone 2: PCT55 (Rehab)
- Zone 3: PCT82 (Moderate)
- Zone 4: PCT82 (Rehab)
- Zone 5: PCT201 (Good)
- Zone 6: PCT201 (Rehab)
- Zone 7: PCT217 (Moderate)
- Zone 8: PCT217 (Rehab)
- Zone 9: PCT56 (Moderate)

- Zone 10: PCT56 (Rehab)
- Zone 11: PCT76 (Moderate)
- Zone 12: PCT76 (Rehab)
- Zone 13: PCT77 (Moderate)
- Zone 14: PCT78 (Moderate)
- Zone 15: PCT57 (Moderate)
- Hydrological features

2.2.2. Threatened ecological communities

The threatened ecological communities (TECs) listed in Table 2-2 and mapped on Figure 2-3 have been retained within the Site boundary and will be actively managed to protect and enhance their biodiversity values under this BioMP.

Table 2-2: Threatened ecological communities managed on Site

TEC Name	Listing	Remnant hectares	Rehabilitation hectares
Poplar Box Grassy Woodland on Alluvial Plains	Endangered Commonwealth EPBC Act	19.87	111.18
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	Endangered NSW BC Act	83.57	177.78
Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions	Endangered NSW BC Act	35.39	8.10
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia	Endangered Commonwealth EPBC Act	35.39 (duplicate of NSW listed value)	0 (condition threshold not met)
Total		138.83 ha	297.06 ha

2.2.3. Vegetation integrity

Vegetation integrity (VI) describes the degree to which the composition, structure, and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state.

A VI score is a metric-based assessment used to measure the condition of native vegetation against a benchmark, based on survey data (Oliver, Dorrough, & Seidel, 2021). The methods used to collect this data (DPIE, 2020) are standardised and repeatable; allowing for the collection of up-to-date data which informs evidence-based decision making (see Chapter 4).

VI scores for all PCTs on the Site are provided in Table 2-3. This data was collected by AREA between in 2021 for the *Biodiversity Development Assessment Report: Tomingley Gold Extension Project* (AREA, 2021).

A vegetation zone is an area of the same PCT with the same broad condition state. Vegetation zones (and the associated vegetation monitoring plots) are mapped in Figure 2-3.

The results of the baseline survey reveal a broad range of VI scores across the Site, which reflect the land use history, and known historical disturbance. Vegetation zones on the Site have potential for significant VI score gains with appropriate environmental management actions.

Table 2-3: Vegetation integrity scores for PCTs in 2024

Zone	Area retained on site (ha)	Composition condition score	Structure condition score	Function condition score	Vegetation Integrity score (2024)
Zone 1 PCT55 (Moderate)	54.09	86.3	72.6	46.9	66.5
Zone 2 PCT55 (Rehab)	78.04	61.3	31.9	21.2	34.6

Zone	Area retained on site (ha)	Composition condition score	Structure condition score	Function condition score	Vegetation Integrity score (2024)
Zone 3 PCT82 (Moderate)	78.77	36	58.3	30.3	39.9
Zone 4 PCT82 (Rehab)	165.94	50.8	39.6	0.5	12.6
Zone 5 PCT201 (Good)	83.57	79.3	100	64.4	79.9
Zone 6 PCT201 (Rehab)	177.78	41.8	79.5	21.1	41.2
Zone 7 PCT217 (Moderate)	23.10	67.5	55.6	56.2	59.5
Zone 8 PCT217 (Poor)	9.80	39.9	17.8	3	12.9
Zone 9 PCT56 (Moderate)	19.87	[...*]	[...*]	[*...]	[*...]
Zone 10 PCT56 (Rehab)	111.18	[...*]	[...*]	[*...]	[*...]
Zone 11 PCT76 (Moderate)	35.39	[...*]	[...*]	[*...]	[*...]
Zone 12 PCT76 (Rehab)	8.10	[...*]	[...*]	[*...]	[*...]
Zone 13 PCT77 (Moderate)	52.13	[...*]	[...*]	[*...]	[*...]
Zone 14 PCT78 (Moderate)	30.90	[...*]	[...*]	[*...]	[*...]
Zone 15 PCT57 (Moderate)	28.95	[...*]	[...*]	[*...]	[*...]
*To be completed during monitoring year 1					

2.3. Habitat suitability

Habitat suitability is the degree to which the habitat needs of threatened species are present at a particular site. The baseline biodiversity assessment identified multiple environmental variables which contribute to the suitability of the Site as habitat for a variety of threatened species.

2.3.1. Habitat features

Habitat requirements of threatened species predicted or known to occur on the Site were assessed during the baseline biodiversity assessment (AREA, 2021). Table 2-4 provides a summary of the habitat features potentially utilised by threatened species on the Site. Habitat features not directly associated with native vegetation are marked with an asterisk* and mapped on Figure 2-4.

Table 2-4: Habitat features for threatened species recorded on Site.

Habitat feature	Site location and abundance	Example associated threatened species
Hollow bearing trees	Associated with remnant native vegetation and occurs throughout the Site	Glossy Black-Cockatoo, Little Lorikeet, Squirrel Glider, Little Pied Bat, Yellow-bellied Sheath-tail-bat
Decorticated bark	Associated with PCTs co-dominated by 'gum barked' eucalypts, which includes all PCTs recorded on Site	Corben's Long-eared Bat, Grey-crowned Babbler, Varied Sittella
Shrubs	Associated with remnant native vegetation and occurs throughout the Site	Dusky Wood swallow
Open, grassy woodland	Associated with remnant native vegetation and occurs throughout the Site	Brown Treecreeper, Speckled Warbler, Bluegrass, Australian Bustard
Flowering plants / nectar / mistletoe	Associated with remnant native vegetation and occurs throughout the Site	Painted Honeyeater, Squirrel Glider
Fallen logs	There are few fallen logs remaining in the landscape assessment area resulting from a long period of extensive agricultural land management practices	Kultarr, Woma, Bush Stone-curlew, Eastern Pygmy-possum
Rocky outcrops, crevices, and caves*	Rocky outcrops, crevices and caves are rare within the local landscape, potential habitat is only associated with current mining activity	Corben's Long-eared Bat, Large-eared Pied Bat
Hydrological features*	Hydrological features include only minor and highly ephemeral unnamed drainage lines	Brolga, Barking Owl, Magpie Goose

2.3.2. Habitat connectivity

Habitat connectivity is the degree to which the Site connects different areas of habitat of threatened species to facilitate the movement of those species across their range.

The Site is in a poorly connected landscape which has been historically cleared for agricultural production. Narrow corridors of retained trees line the existing Newell Highway alignment and connect the site to the Goobang National Park (Figure 2-5).

2.3.3. Water sustainability

Water sustainability is the degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site. This Site contains highly ephemeral hydrological features including Gundong Creek and Bulldog Creek – these are mapped as Key Fish Habitat. The nearest semi-permanent watercourse is the Bogan River, approximately 10 kilometres downstream from the Site. Dams and drainage lines in Site contain aquatic habitat which attracts insects, sustaining insectivorous bats and amphibians.

2.3.4. Flight path integrity

Flight path integrity is the degree to which the flight paths of protected animals over a particular site are free from interference. The Site does not contain structures which would inhibit the flight path of native or migratory species.

Figure 2-4: Non-native vegetation associated habitat features recorded on the Site.

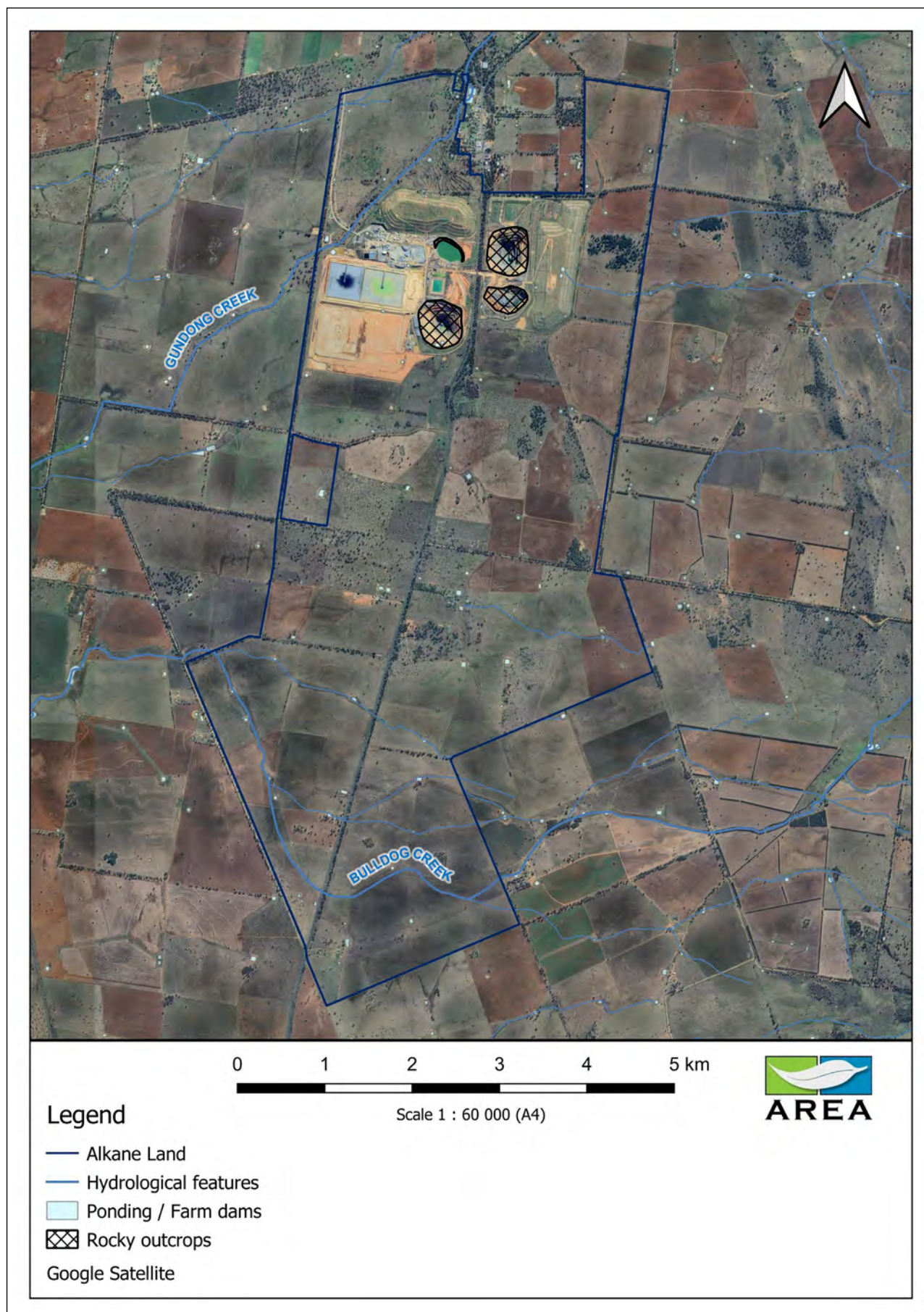
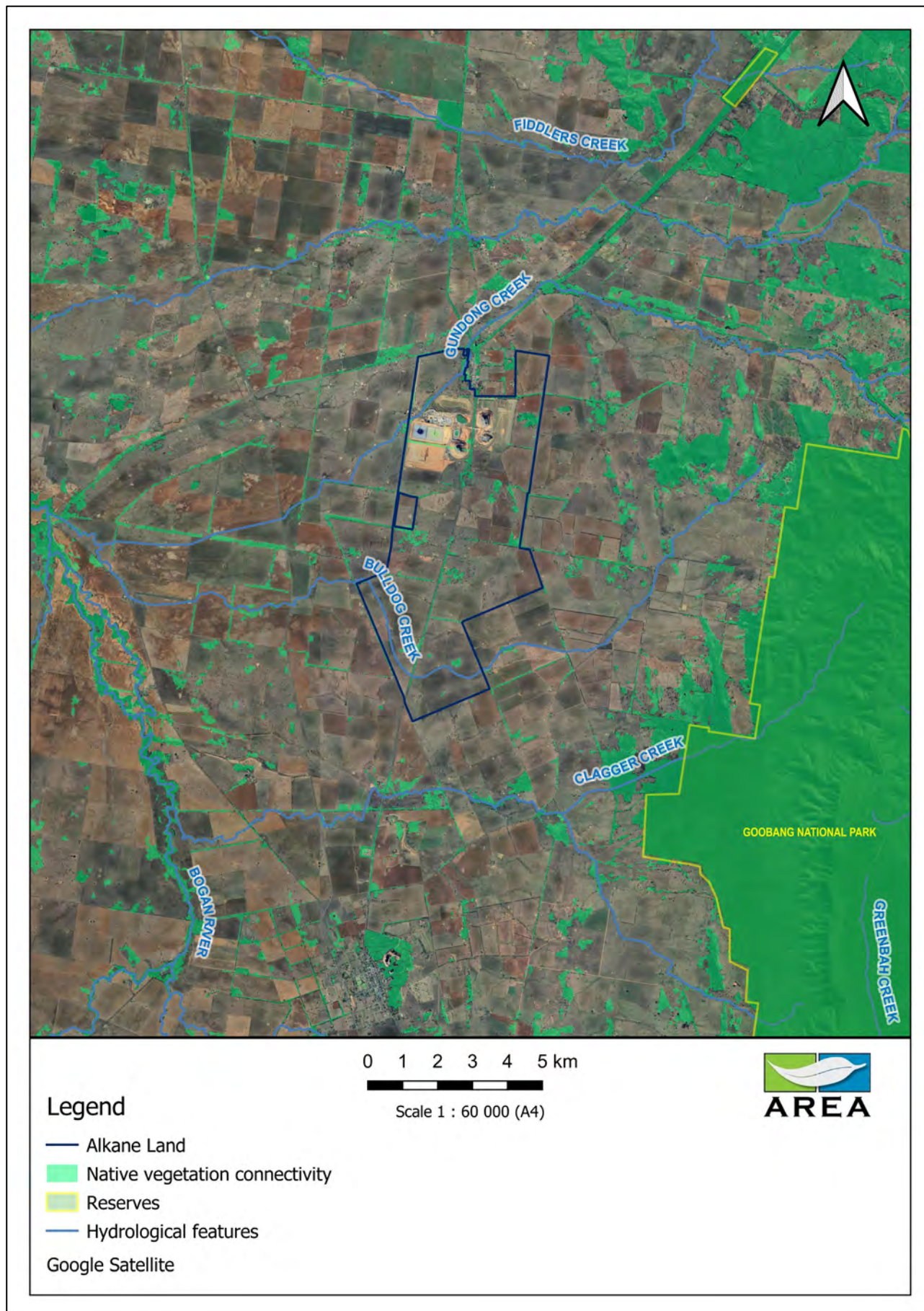


Figure 2-5: Habitat connectivity in the local landscape.



2.4. Threatened species

Threatened species which are predicted, assumed, or known to occur on the Site are provided in Table 2-5. Previously recorded threatened species are mapped in Figure 2-5 and are marked with an “§” in Table 2-5. Each of these species have suitable habitat on the Site.

The sensitivity to gain considers the ability of a species to respond to improvements in habitat condition at a site managed for biodiversity outcomes.

Table 2-5: Threatened species with potential to occur on Site.

Species	Habitat requirements	Sensitivity to gain	BC Act	EPBC Act
<i>Crinia sloanei</i> Sloane's Froglet	Sloane's Froglet has been recorded from widely scattered sites in the floodplains of the Murray-Darling Basin. It is typically associated with periodically inundated areas in grassland, woodland, and disturbed habitats. NSW government specialists are reviewing the distribution and ID of this species which may change future monitoring report requirements.	Moderate	Vulnerable	Endangered
<i>Chalinolobus picatus</i> Little Pied Bat §	The Little-Pied Bat is found in inland NSW (including Western Plains and slopes). Occurs in dry open forest, open woodland, mulga woodlands, chenopod shrublands, cypress pine forest and mallee and Bimbil box woodlands. Roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings.	High	Vulnerable	Not Listed
<i>Nyctophilus corbeni</i> Corben's Long-eared Bat	Inhabits a variety of vegetation types, including mallee, bulloke, and box eucalypt dominated communities. Roosts in tree hollows, crevices, and under loose bark.	High	Vulnerable	Vulnerable
<i>Saccolaimus flaviventris</i> Yellow-bellied Sheath-tail-bat	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	High	Vulnerable	Not Listed
<i>Artamus cyanopterus cyanopterus</i> Dusky Wood swallow	Primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and ground-cover of grasses or sedges and fallen woody debris. Also found in farmland, usually at the edges of forest or woodland. Primarily eats invertebrates, mainly insects, which are captured whilst hovering or sallying above the canopy or over water.	Moderate	Vulnerable	Not Listed

Species	Habitat requirements	Sensitivity to gain	BC Act	EPBC Act
<i>Calyptorhynchus lathamii</i> Glossy Black-Cockatoo	Inland populations feed on a wide range of sheoaks, including Drooping Sheoak, <i>Allocasuarina diminuta</i> , and <i>A. gymnothera</i> . Belah is also utilised and may be a critical food source for some populations. Dependent on large hollow-bearing eucalypts for nest sites.	N/A	Vulnerable	Vulnerable
<i>Circus assimilis</i> Spotted Harrier	Occurs in grassy open woodland including <i>Acacia</i> and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands.	Moderate	Vulnerable	Not Listed
<i>Climacteris picumnus victoriae</i> Brown Treecreeper (eastern subspecies) ^s	Mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species. Fallen timber is an important habitat component for foraging. Hollows in standing dead or live trees and tree stumps are essential for nesting.	High	Vulnerable	Not Listed
<i>Daphoenositta chrysoptera</i> Varied Sittella	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and <i>Acacia</i> woodland. Feeds on arthropods gleaned from crevices in rough or decortivating bark, dead branches, standing dead trees and small branches and twigs in the tree canopy.	Moderate	Vulnerable	Not Listed
<i>Epthianura albifrons</i> White-fronted Chat	Usually found foraging on bare or grassy ground in wetland areas, singly or in pairs. They are insectivorous, feeding mainly on flies and beetles caught from or close to the ground.	Moderate	Vulnerable	Not Listed
<i>Falco hypoleucos</i> Grey Falcon	Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey. Preys primarily on birds, especially parrots and pigeons, using high-speed chases and stoops; reptiles and mammals are also taken. Like other falcons it utilises old nests of other birds of prey and ravens, usually high in a living eucalypt near water or a watercourse	Moderate	Vulnerable	Vulnerable

Species	Habitat requirements	Sensitivity to gain	BC Act	EPBC Act
<i>Falco subniger</i> Black Falcon	The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring in inland regions.	Moderate	Vulnerable	Not Listed
<i>Grantiella picta</i> Painted Honeyeater	Inhabits Weeping Myall (<i>Acacia pendula</i>), Brigalow (<i>A. harpophylla</i>) and Box-Gum Woodlands and Box-Ironbark Forests. A specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Prefers mistletoes of the genus <i>Amyema</i> .	Moderate	Vulnerable	Vulnerable
<i>Grus rubicunda</i> Brolga	Though Brolgas often feed in dry grassland or ploughed paddocks or even desert claypans, they are dependent on wetlands too, especially shallow swamps, where they will forage with their head entirely submerged.	Moderate	Vulnerable	Not Listed
<i>Hieraaetus morphnoides</i> Little Eagle	Occupies open eucalypt forest, woodland or open woodland. Sheoak or <i>Acacia</i> woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter.	N/A	Vulnerable	Not Listed
<i>Hirundapus caudacutus</i> White-throated Needletail	The White-throated Needletail is mostly aerial, from heights of less than 1 m up to more than 1000 m above the ground. Although they occur over most types of habitat, they are recorded most often above wooded areas, including open forest and rainforest, and may also fly below the canopy between trees or in clearings. The species roosts in trees amongst dense foliage in the canopy or in hollows.	High	Not Listed	Vulnerable
<i>Lophoictinia isura</i> Square-tailed Kite	Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses. Is a specialist hunter of passerines, especially honeyeaters, and most particularly nestlings, and insects in the tree canopy, picking most prey items from the outer foliage.	N/A	Vulnerable	Not Listed
<i>Melanodryas cucullata cucullata</i> Hooded Robin (south-eastern form)	Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee, often in or near clearings or open areas. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses.	Moderate	Vulnerable	Not Listed

Species	Habitat requirements	Sensitivity to gain	BC Act	EPBC Act
<i>Neophema pulchella</i> Turquoise Parrot	Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Nests in tree hollows, logs or posts, from August to December.	High	Vulnerable	Not Listed
<i>Nettapus coromandelianus</i> Cotton Pygmy-Goose	Freshwater lakes, lagoons, swamps and dams, particularly those vegetated with waterlilies and other floating and submerged aquatic vegetation. The Cotton Pygmy-goose uses tall standing dead trees with hollows located close to water for roosting and breeding.	Moderate	Endangered	Not Listed
<i>Ninox connivens</i> Barking Owl	Inhabits woodland and open forest, including fragmented remnants and partly cleared farmland. It is flexible in its habitat use, and hunting can extend in to closed forest and more open areas. Sometimes able to successfully breed along timbered watercourses in heavily cleared habitats. Roost in shaded portions of tree canopies, including tall midstorey trees with dense foliage such as <i>Acacia</i> and <i>Casuarina</i> species. Breeds in hollows of large, old trees. Living eucalypts are preferred though dead trees are also used.	N/A	Vulnerable	Not Listed
<i>Pachycephala inornata</i> Gilbert's Whistler	The Gilbert's Whistler occurs in a range of habitats within NSW, though the shared feature appears to be a dense shrub layer. In woodland habitats, the understorey comprises dense patches of shrubs, particularly thickets of regrowth <i>Callitris</i> pine. Parasitic 'cherries' (<i>Exocarpus</i> species) appear to be an important habitat component in Belah	Moderate	Vulnerable	Not Listed
<i>Polytelis swainsonii</i> Superb Parrot §	Superb Parrots nest in tree hollows with an entrance diameter of 6 cm or wider, and that are at least 3.5 m above the ground. Inhabit Box-Gum, Box-Cypress-pine and Boree woodlands and River Red Gum forest.	N/A	Vulnerable	Vulnerable
<i>Pomatostomus temporalis temporalis</i> Grey-crowned Babbler (eastern subspecies) §	Inhabits Box-Cypress-pine and open Box Woodlands on alluvial plains. Feed on invertebrates, either by foraging on the trunks and branches of eucalypts and other woodland trees or on the ground, digging and probing amongst litter and tussock grasses. Build and maintain several conspicuous, dome-shaped stick nests about the size of a football. A nest is used as a dormitory for roosting each night.	Moderate	Vulnerable	Not Listed

Species	Habitat requirements	Sensitivity to gain	BC Act	EPBC Act
<i>Stagonopleura guttata</i> Diamond Firetail	Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. Feeds exclusively on the ground, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects (especially in the breeding season, see Appendix F).	Moderate	Vulnerable	Not Listed
<i>Tyto novaehollandiae</i> Masked Owl	Lives in dry eucalypt forests and woodlands from sea level to 1100 m. A forest owl, but often hunts along the edges of forests, including roadsides. The typical diet consists of tree-dwelling and ground mammals, especially rats. Pairs have a large home-range of 1000 hectares or more, depending on prey availability. Roosts and breeds in moist eucalypt forested gullies, using large tree hollows or sometimes caves for nesting.	N/A	Vulnerable	Not Listed
<i>Sminthopsis macroura</i> Stripe-faced Dunnart	Native dry grasslands and low dry shrublands, often along drainage lines where food and shelter resources tend to be better. They shelter in cracks in the soil, in grass tussocks or under rocks and logs.	High	Vulnerable	Not Listed
<i>Hoplocephalus bitorquatus</i> Pale-headed Snake	The Pale-headed Snake is a highly cryptic species that can spend weeks at a time hidden in tree hollows. Found mainly in dry eucalypt forests and woodlands, cypress forest and occasionally in rainforest or moist eucalypt forest. In drier environments, it appears to favour habitats close to riparian areas.	High	Vulnerable	Not Listed
<i>Dichanthium setosum</i> Bluegrass	Associated with heavy basaltic black soils and red-brown loams with clay subsoil. Often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture. (Often collected from disturbed open grassy woodlands on the northern tablelands, where the habitat has been variously grazed, nutrient-enriched and water-enriched).	High	Vulnerable	Vulnerable



Legend

— Alkane Land

Threatened species

- Aves

- Mammalia

Google Satellite

2.5. Threats

A threat may be listed as a key threatening process under the BC Act if it:

- adversely affects threatened species or ecological communities; or,
- could cause species or ecological communities to become threatened.

The Site was assessed for existing threats which impact biodiversity values.

2.5.1. Pests

A pest means a plant or animal (other than a human) that has an adverse effect on, or is suspected of having an adverse effect on, the environment, the economy, or the community because it has the potential to:

- out-compete other organisms for resources, including food, water, nutrients, habitat, and sunlight, or
- prey or feed on other organisms, or
- transmit disease to other organisms, or
- cause harm to other organisms through its toxicity, or
- otherwise reduce the productivity of agricultural systems or the value of agricultural products, or
- damage infrastructure, or
- reduce the amenity or aesthetic value of premises, or
- harm or reduce biodiversity.

Pest plants and animals have been previously recorded on the Site; and require ongoing management.

Pest flora

Pest flora (weed) infestations occur across the Site. Pest flora species are early colonisers of disturbed areas and high traffic areas. The Site contains high traffic areas, zones dedicated to mining operation, and areas dedicated to productive agriculture. It also contains areas of native vegetation communities in relatively good condition which provide less opportunity for pest flora populations to establish.

The following pest flora species have been recorded on the Site:

- African Boxthorn (*Lycium ferocissimum*)
- Bathurst burr (*Xanthium spinosum*)
- Saffron Thistle (*Carthamus lanatus*),
- Devil's Rope Pear (*Cylindropuntia imbricata*),
- Flaxleaf Fleabane (*Conyza bonariensis*),
- Mexican poppy (*Argemone ochroleuca*); and,
- Paterson's curse (*Echium plantagineum*).

Pest fauna

The pest fauna burden on the Site is significant and is related to the land use history. Pest fauna populations previously recorded on the Site include:

- Feral cat (*Felis catus*),
- European red fox (*Vulpes vulpes*), and,
- European rabbit (*Oryctolagus cuniculus*).

Of particular concern to biodiversity, feral cats and foxes are the primary local threat to certain threatened fauna species which are known to occur on the Site.

2.5.2. Disease

In NSW, there are infectious pathogens with potential to impact on biodiversity. Any activities involving the movement of soil and equipment over large areas are a potential risk for spread and infection. The pathogens and diseases below are listed as key threatening processes under the BC Act. These threats have not previously been recorded on the Site:

- **Phytophthora:** a soil-borne fungus causing tree death (dieback). Infected soil/root material may be dispersed by vehicles (e.g. earth moving equipment). It is considered a low risk to the Site due to the low annual rainfall of the area and known distribution of infection. It remains possible the disease could be introduced to the Site and lay dormant until favourable moisture occurs, precautions are appropriate given the potential consequences of introducing the fungus.
- **Psittacine Circoviral Disease:** affects parrots and is often fatal. The distribution of the disease and the factors involved in its spread are not well understood. The virus can be transmitted between birds orally or in faeces or feathers.
- **Chytrid fungus:** is a fatal infectious disease affecting amphibians worldwide. It is a water-borne fungus which may be spread because of handling frogs or through cross contamination of water bodies by vehicles and workers.

2.5.3. Human disturbance

The following existing human impacts were recorded in the Site:

- clearing of native vegetation (particularly ringbarking and selective timber removal), species diversity, composition, and structure impacted by long term climate change,
- degradation of the landscape in which remnant native vegetation occurs including soil acidification, salinisation, erosion, scalding and loss of connectivity,
- invasion and establishment of weed species changing community structure and floristic composition,
- grazing by domestic stock; and,
- overabundant native herbivores e.g. macropods, and introduced herbivores e.g. feral goats and rabbits, leading to loss of floristic structure and ecological function.

The primary existing threat to biodiversity values within the proposal area that will be exacerbated by the proposal is clearing of native vegetation associated with infrastructure development.

3. Biodiversity management

This chapter describes the measures to be taken to manage the remnant vegetation and fauna habitat on the Site in accordance with development consent SSD 9176045.

3.1. Biodiversity outcomes

The following obligations related to biodiversity outcomes have been extracted from condition B62 of SSD 9176045:

- minimise impacts within the approved disturbance areas (TGEP ADAs),
- maximise the salvage of biodiversity resources for beneficial reuse,
- protect and restore biodiversity values outside of the TGEP ADAs,
- manage any potential conflicts with Aboriginal heritage values,
- manage the collection and propagation of seed,
- manage bushfire hazards,
- control erosion, pest plants, and pest animals across the Site; and,
- control human access to vegetated or revegetated areas.

This chapter identifies Biodiversity Management Zones (BMZs) (section 3.3) where specific biodiversity management measures (section 3.4) will be actioned to achieve the outcomes listed above.

3.1.1. Offset biodiversity impacts

The Applicant must retire biodiversity credits specified in SSD 9176045 in accordance with the Biodiversity Offsets Scheme.

The proponent has purchased biodiversity credits and has submitted a Biodiversity Stewardship Application to the NSW Government.

Additionally, the proponent continues to manage the established TGO Offsets described in section 3.3.4 of this BMP and mapped in Figure 3-1.

The proponent is also implementing biodiversity offsets imposed by MP09_0155 to the satisfaction of the Planning Secretary. The management of these offsets is detailed in Section 3.4.4 and Appendix D of this BioMP.

3.2. Integrated approach to implementation

The proponent will apply an integrated approach to biodiversity management by ensuring:

- Proposed land uses and management measures across the Site are not in conflict.
- Management measures under the following required management plans are drafted to be complementary:
 - o **B49:** Water Management Plan.
 - o **B62:** Biodiversity Management Plan (this document).
 - o **B73:** Aboriginal Cultural Heritage Management Plan.
 - o **B76:** Historic Heritage Management Plan.
 - o **B84:** Rehabilitation Strategy.
 - o **D1:** Environmental Management Strategy.
- Implementation of the management measures for each of these required plans or strategies is scheduled and carried out effectively.

3.3. Biodiversity management zones

Five biodiversity management zones have been mapped for the Site (Figure 3-1). Relevant threats to biodiversity values to be managed under this BioMP have been identified for each management zone.

3.3.1. TGEF Approved Disturbance Area

The 'TGEF Approved Disturbance Area' (TGEF ADA) will be directly impacted by mining activities. Remnant native vegetation will not be maintained or managed in the TGEF ADA during the operational life of the mine.

The following potential operational impacts to biodiversity will be managed under this BioMP:

- exposure to tailings,
- infestation by pest plants; and,
- vehicle strikes to native and protected fauna.

Management measures to address these threats are provided in section 3.4 of this BioMP.

The TGEF ADA contains areas which are to be rehabilitated in accordance with condition B83 of SSD 9176045. The implementation of management measures prescribed by this BioMP would not be inconsistent with the required rehabilitation after cessation of mining.

3.3.2. TGEF Operational Land

The 'TGEF Operational Land' is outside of, but close to, the TGEF ADA. TGEF Operational Land contains land historically used for agriculture, road corridors, and native vegetation communities. TGEF Operational Land is particularly at risk of:

- infestation by pest plants,
- pest animals preying on protected fauna,
- dust deposition onto native plants affecting photosynthesis, respiration, transpiration,
- uncontrolled fire; and,
- dumping of rubbish, waste, hazardous materials.

Management measures to address these threats are provided in section 3.4 of this BioMP.

3.3.3. Agricultural Land

The proponent has an obligation to ensure agricultural productivity and production on its landholdings is maintained or enhanced (condition B93 of SSD 9176045). This condition is balanced against the obligations to protect biodiversity outside of the TGEF ADA imposed by condition B62.

Agricultural land is at risk of:

- infestation by pest plants,
- pest animals preying on protected fauna,
- dust deposition onto native plants affecting photosynthesis, respiration, transpiration,
- dumping of rubbish, waste, hazardous materials,
- erosion; and,
- uncontrolled fire.

Management measures to address these threats are provided in section 3.4 of this BioMP.

3.3.4. TGO Offsets

Condition B58 of SSD 9176045 requires the implementation of a biodiversity offset strategy for the offsets imposed under original TGO project approval MP09_0155.

The TGO Offsets are protected under a Conservation Property Vegetation Plan 18458 (Appendix D) which stipulates certain management actions to be undertaken in perpetuity, including:

- revegetation and retention of regrowth vegetation,
- rehabilitation of riparian corridors,
- retention of non-native vegetation habitat values,
- best practice fire management,
- grazing exclusion and prohibition of clearing,
- exclusion of fertilisers and human disturbance,
- control of pest animals and pest plants; and,
- monitoring requirements.

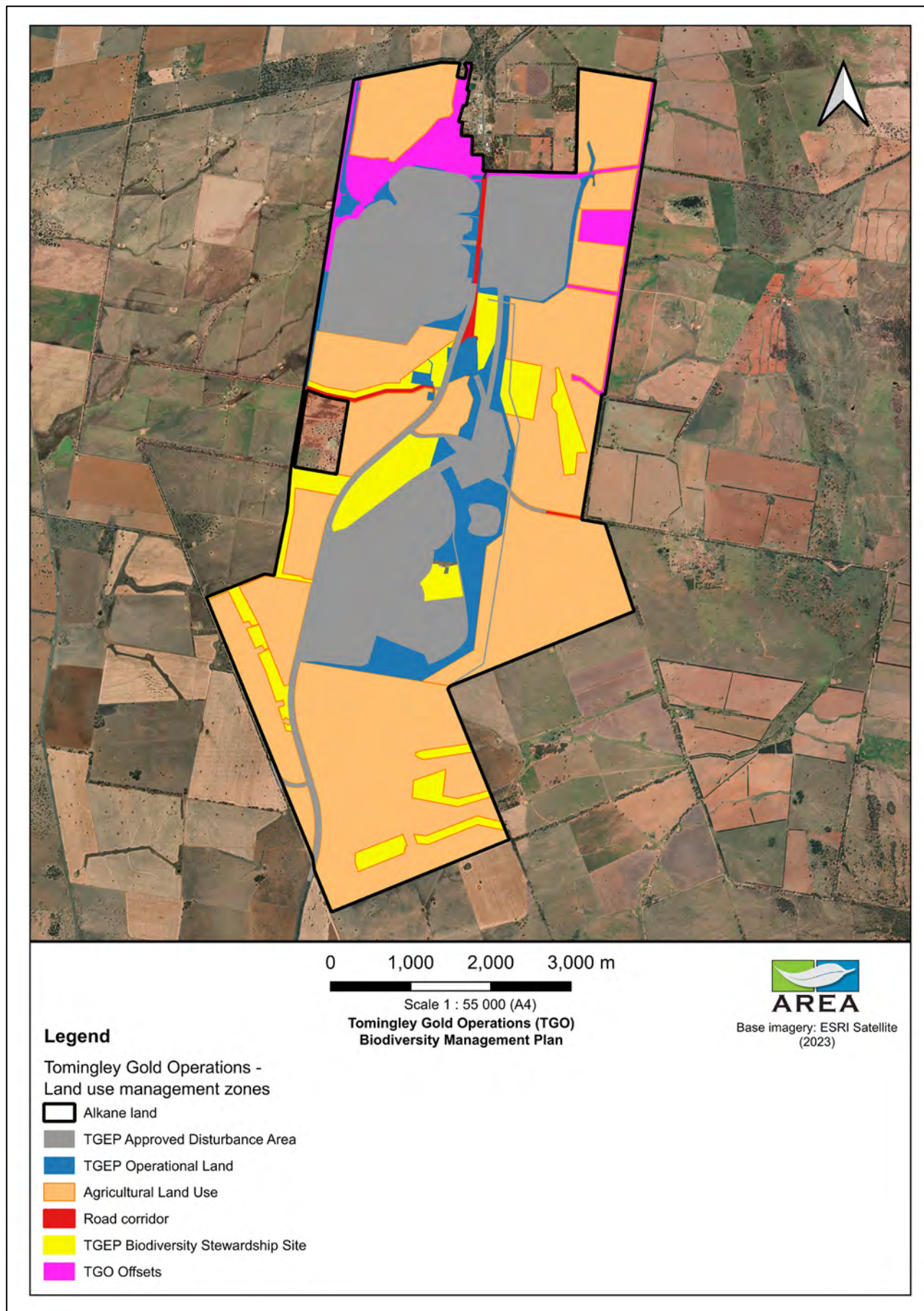
These obligations remain in force, any management actions described under this BioMP are complimentary to the existing obligations.

3.3.5. TGEP Offsets

The TGEP Offsets are to be managed pursuant to a proposed Biodiversity Stewardship Agreement (BSA) and Management Plan to be approved by the NSW Government Biodiversity Conservation Trust.

Management actions described in this BioMP will apply to the TGEP Offsets management zone until any BSA and Management Plan becomes 'active' over this zone; at which point the management actions described in this BioMP become superseded and cease to apply to the TGEP Offsets management zone.

Figure 3-1: Biodiversity management zones



3.4. Biodiversity management measures

Management measures are operational activities which occur throughout the life of the project, in a 'business as usual' setting. Management measures are actions which are expected to influence certain environmental variables relating to biodiversity objectives which are specified in SSD 9176045.

Environmental variables managed include those identified in the consent conditions, and specific biodiversity values and threats known on Site.

3.4.1. TGEF Approved Disturbance Area management measures

A summary of biodiversity management measures to be taken in the 'TGEF Approved Disturbance Area' are outlined in Table 3-1.

Table 3-1: TGEF Approved Disturbance Area management measures

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
Minimise clearing					
SSD9176045 B62 (d)(i)	Minimise the amount of vegetation clearing in the TGEF ADA	Planning: - Revision of project design - Modification of project - Preparation for planned / authorised vegetation clearing activity	- Review the extent of clearing practically required for the approved activity. - Identify opportunities to minimise clearing of vegetation within the TGEF ADA. - Identify opportunities to avoid fauna habitat values through micro-siting within the TGEF ADA.	- Administrative Audit - Pre-clearing survey	Environmental Manager
SSD9176045 B62 (d)(i)	Minimise the amount of vegetation clearing in the TGEF ADA	Pre-construction: Planned / authorised vegetation clearing activity	- Survey and clearly demarcate the boundary of each clearing area prior to each approved clearing event. - Review and enact pre-clearing procedure (section 4.2.1) before work commences. - Review and enact pre-start / toolbox talk communication procedure before clearing commences.	Pre-clearing survey	Environmental Manager
Maximise the salvage of biodiversity resources					
SSD9176045 B62 (d)(iii)	Maximise the salvage of biodiversity	Pre-construction:	Collection of viable seed stock for key native flora species (i.e. <i>Eucalyptus conica</i> and <i>Casuarina cristata</i>) will be conducted where	Administrative Audit	Environmental Manager

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
	resources for beneficial reuse.	Planned / authorised vegetation clearing activity	- feasible and practical prior to the commencement of approved / authorised clearing. - Collection of seed would be undertaken in accordance with the Conservation Management Notes: Seed Collecting (OEH, 2011) (or latest version). - Fallen timber, dead wood, trees with hollows, and bush rock encountered on site would be left in situ where possible or relocated to a suitable place nearby (i.e. in the TGEF Offsets zone). - Rock would be removed with suitable machinery so as not to damage the underlying rock or result in excessive soil disturbance.	Pre-clearing survey	
Minimise impacts to protected fauna					
SSD9176045 B62 (d)(ii)	Minimise impacts on protected fauna in the TGEF ADA (habitat removal)	Pre-construction: Planned / authorised vegetation clearing activity (remnant native vegetation)	- Ensure all plant / machinery introduced to Site is clean and free from soil and seed to reduce biosecurity risks (the spread of pest plants and pathogens). - Engage suitably experienced or qualified personnel to carry out pre-clearing surveys in the TGEF ADA immediately (within 24 hours) prior to vegetation clearing. - An ecologist or spotter / catcher will be present for the removal of hollow-bearing trees, logs or stags which could contain native fauna. - Avoid clearing native vegetation during key breeding seasons for threatened fauna - between August to December where possible (see Appendix F). - Adhere to the recommendations provided in the pre-clearance survey report.	Pre-clearing survey	Environmental Manager

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
			- Implement staged habitat removal to allow fauna to vacate (if present); vegetation will be retained in the buffer area until future stages commence. - Respond to (e.g., rescue, relocate only if required) fauna detected during the clearing process.		
SSD9176045 B62 (d)(ii)	Minimise impacts to protected fauna in the TGEPA ADA (vehicle strike)	Operation: Vehicle movements in the TGEPA ADA during construction, operation, rehabilitation	- Enforce low speed limits on Mine Site roads. - Install warning signs at known wildlife crossings. - Implement reporting requirements for any fauna / vehicle strike interactions. - Ensure staff are inducted on how to reduce risk to fauna from vehicle strike. - Any roadkill near or caused by the project is to be relocated away from high traffic areas to prevent bird species which eat carrion from being injured by traffic.	Administrative Audit	Environmental Manager
SSD9176045 B62 (d)(ii)	Minimise impacts to protected fauna in the TGEPA ADA (handling)	Operation: Protected fauna are encountered in the TGEPA ADA	- Personnel will avoid handling wildlife where possible. If fauna is required to be moved on site at short notice (such as snakes), only suitably trained or qualified individuals are able to do so. - In the case of injured fauna, a nominated rescue agency or veterinarian is able to be contacted to provide advice on what actions to take as per the fauna handling and rescue procedure. (Appendix E)	Administrative Audit	Environmental Manager
SSD9176045 B62 (e)(vi)	Minimise impacts to protected fauna in the TGEPA ADA	Operation: Operation of the Residue Storage Facility (RSF)	- Monitor cyanide concentrations at the RSF. - Maintain the fauna exclusion fence at the process water dam. - Maintain minimal decant water on the RSF so as not to attract fauna.	Residue Storage Facility Monitoring	Environmental Manager

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
	(exposure to tailings)		Monitor the RSF regularly for impacted fauna.	Fence Monitoring	
SSD9176045 B62 (e)(vi)	Minimise impacts to protected fauna in the TGEF ADA (exposure to tailings)	Rehabilitation: Rehabilitation of tailings	Tailings are contained within a structure that adequately mitigates risk of tailings and associated contaminants being released to the environment	Rehabilitation Report	Environmental Manager
Control pests					
SSD9176045 B62 (e)(vii)	Control weeds	Operation: - Ongoing management measure (for the life of the Mine) - Annual Review - New weed infestation identified	- Carry out the pest plant control program across the Site (Appendix C). - Review the efficacy of the pest plant control program annually. - Adapt the pest plant control program to improve efficacy where necessary. - Application of a native grass mix in areas disturbed by the project post construction will assist in bank stabilisation and preventing further invasion and spread of weeds. - Construction machinery (bulldozers, excavators, trucks, loaders, and graders) would be cleaned using a high-pressure washer (or other suitable device) before entering and exiting work sites. - Any person carrying out herbicide application would be trained to do so and have the proper certificate of completion/competency or statement of attainment issued by a registered training organisation.	- Biodiversity Monitoring Program - Administrative Audit - Pest Plant Monitoring	Environmental Manager
SSD9176045 B62 (e)(vii)	Control pest animals	Operation:	Carry out the pest animal control program across the Site (Appendix B).	Biodiversity Monitoring Program	Environmental Manager

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
		- Ongoing management measure (for the life of the Mine) - Annual Review - Pest animals are identified	- Review the efficacy of the pest animal control program annually. - Adapt the pest animal control program to improve efficacy where necessary. - All food scraps and rubbish are to be appropriately disposed of in sealed containers.	- Administrative Audit - Pest Animal Monitoring	
Control erosion					
SSD9176045 B62 (e)(viii)	Control erosion	Construction: - Earthwork Operation: - Significant rainfall events Rehabilitation: - Earthwork - Revegetation	Soil erosion and sediment control will be carried out in accordance with the Erosion and Sediment Control Plan within the Water Management Plan.	Water Management Plan Monitoring Program	Environmental Manager
Manage bushfire hazards					
SSD9176045 B62 (e)(xi)	Manage the risk of uncontrolled fire	Planning: - Revision of project design - Modification of project - Preparation for planned / authorised vegetation clearing activity	- Prepare a Bushfire Report, prepared in accordance with Planning for Bushfire Protection (RFS, 2019) (or latest version), in consultation with the NSW Rural Fire Services. - Prepare an Emergency Response Plan, prepared in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 1 'Emergency Planning' guideline, in consultation with Fire and Rescue NSW. - Prepare an Emergency Services Information Package, prepared in accordance with the Fire and Rescue NSW Fire safety guideline – Emergency services information package and tactical fire plans for the development.	Administrative Audit	Environmental Manager

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
SSD9176045 B62 (e)(xi)	Manage the risk of uncontrolled fire	Construction: - Construction planning, earthwork, clearing, hot work Operation: - Machinery operation, hot work	- Provide for asset protection in accordance with the relevant requirements in the Planning for Bushfire Protection (RFS, 2019) (or latest version) guideline. - Ensure that there is suitable equipment to respond to any fires on the site. - Ensure compliance with total fire bans, hot work permit requirements, and machinery maintenance requirements / standards. - Maintain records of hot work permits, fire permits, machinery maintenance.	Administrative Audit	Environmental Manager Work Health & Safety Manager Open Cut Manager
Restore native vegetation and fauna habitat					
SSD9176045 B62(e)(ii)	Restore native vegetation and fauna habitat	Closure	restore native vegetation and fauna habitat, including assisted natural regeneration, targeted vegetation establishment and the introduction of naturally scarce fauna habitat features (where necessary) in accordance with the rehabilitation management plan.	Rehabilitation Audit Report	Environment Manager

3.4.2. TGEF Operational Land management measures

A summary of biodiversity management measures to be taken in the 'TGEF Operational Land' are outlined in Table 3-2.

Table 3-2: TGEF Operational Land management measures

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
Protect vegetation and fauna habitat outside of the TGEF ADA					
SSD9176045 B62 (e)(iv)	Protect vegetation and fauna habitat	Pre-construction: Planned / authorised vegetation clearing activity in the TGEF ADA	- Survey and clearly demarcate the boundary of each approved clearing area prior to each approved clearing event. - Review and enact pre-clearing procedure before work commences.	Pre-clearing survey	Environmental Manager

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
			Review and enact pre-start / toolbox talk communication procedure before clearing commences.		
SSD9176045 B62 (e)(iv) and (ix)-(x)	Protect vegetation and fauna habitat	Construction: Establishment of SAR Mine	Fence the mine site operational boundary to a standard that prevents unauthorised human access, dumping of waste, recreational use / exploration.	- Administrative Audit - Fence Monitoring	Environmental Manager
SSD9176045 B62 (e)(iv)	Protect vegetation and fauna habitat	Operation: Operation of TGEP	- Maintain fencing of the operational boundary to a standard that prevents unauthorised human access, dumping of waste, recreational use / exploration. - Induct staff that unauthorised harm to native vegetation and fauna habitat is prohibited. - Induct staff to keep vehicles on established tracks.	- Fence Monitoring - Administrative Audit	Environmental Manager
SSD9176045 B62 (e)(iv)	Protect vegetation and fauna habitat	Operation: Unauthorised clearing of vegetation identified (outside the TGEP ADA)	- Review the boundary of the TGEP ADA for unauthorised incursions into the TGEP Operational Land. - Conduct an internal investigation into any non-compliances. - Compliance reporting. - Undertake remedial action.	- Fence Monitoring - Administrative Audit	Environmental Manager
Manage the collection and propagation of seed					
SSD9176045 B62 (e)(v)	Manage the collection and propagation of seed	Operation: - Establishment of TGEP Offsets - Preparation for Rehabilitation	- Collection of viable seed stock for key native flora species (i.e. <i>Eucalyptus conica</i> and <i>Casuarina cristata</i>) will be conducted where feasible and practical. - Collection of seed would be undertaken in accordance with the Conservation Management Notes: Seed Collecting (OEH, 2011) (or latest version).	Administrative Audit	Environmental Manager
Minimise impact to protected fauna					

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
SSD9176045 B62 (d)(ii)	Minimise impacts to protected fauna in the TGEP Operational Land (vehicle strike)	Operation: Vehicle movements in the TGEP Operational Land during construction, operation, rehabilitation	- Enforce low speed limits on Mine Site roads. - Install warning signs at known wildlife crossings. - Implement reporting requirements for any fauna / vehicle interactions. - Ensure staff are inducted on how to reduce risk to fauna from vehicle strike. - Any roadkill near or caused by the project is to be relocated away from high traffic areas to prevent bird species which eat carrion from being injured by traffic.	Administrative Audit	Environmental Manager
SSD9176045 B62 (d)(ii)	Minimise impacts to protected fauna in the TGEP Operational Land (handling)	Operation: Protected fauna are encountered in the TGEP Operational Land	- Personnel will avoid handling wildlife where possible. If fauna is required to be moved on site at short notice (such as snakes), only suitably trained or qualified individuals are able to do so. - In the case of injured fauna, a nominated rescue agency or veterinarian is able to be contacted to provide advice on what actions to take as per the fauna handling and rescue procedure. (Appendix E)	Administrative Audit	Environmental Manager
Control pests					
SSD9176045 B62 (e)(vii)	Control weeds	Operation: - Ongoing management measure (for the life of the Mine) - Annual Review - New weed infestation identified	- Carry out the pest plant control program across the Site (Appendix C). - Review the efficacy of the pest plant control program annually. - Adapt the pest plant control program to improve efficacy where necessary. - Any person carrying out herbicide application would be trained to do so and have the proper certificate of completion/competency or statement of attainment issued by a registered training organisation.	- Biodiversity Monitoring Program - Administrative Audit - Pest Plant Monitoring	Environmental Manager

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
SSD9176045 B62 (e)(vii)	Control pest animals	Operation: - Ongoing management measure (for the life of the Mine) - Annual Review - Pest animals are identified	- Carry out the pest animal control program across the Site (Appendix B). - Review the efficacy of the pest animal control program annually. - Adapt the pest animal control program to improve efficacy where necessary. - All food scraps and rubbish are to be appropriately disposed of in sealed containers.	- Biodiversity Monitoring Program - Administrative Audit - Pest Animal Monitoring	Environmental Manager
Control erosion					
SSD9176045 B62 (e)(viii)	Control erosion	Construction: - Earthwork Operation: - Significant rainfall events Rehabilitation: - Earthwork - Revegetation	Soil erosion and sediment control will be carried out in accordance with the Erosion and Sediment Control Plan within the Water Management Plan.	Water Management Plan Monitoring Program	Environmental Manager
Manage bushfire hazards					
SSD9176045 B62 (e)(xi)	Manage the risk of uncontrolled fire	Planning: - Revision of project design - Modification of project - Preparation for planned / authorised vegetation clearing activity	- Prepare a Bushfire Report, prepared in accordance with <i>Planning for Bushfire Protection</i> (RFS, 2019) (or latest version), in consultation with the NSW Rural Fire Services. - Prepare an Emergency Response Plan, prepared in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 1 'Emergency Planning' guideline, in consultation with Fire and Rescue NSW. - Prepare an Emergency Services Information Package, prepared in accordance with the Fire and Rescue NSW Fire safety guideline –	Administrative Audit	Environmental Manager

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
			Emergency services information package and tactical fire plans for the development.		
SSD9176045 B62 (e)(xi)	Manage the risk of uncontrolled fire	Construction: - Construction planning, earthwork, clearing, hot work Operation: - Machinery operation, hot work	- Provide for asset protection in accordance with the relevant requirements in the <i>Planning for Bushfire Protection</i> (RFS, 2019) (or latest version) guideline. - Ensure that there is suitable equipment to respond to any fires on the site. - Ensure compliance with total fire bans, hot work permit requirements, and machinery maintenance requirements / standards. - Maintain records of hot work permits, fire permits, machinery maintenance.	Administrative Audit	Environmental Manager Work Health & Safety Manager Open Cut Manager
Manage potential conflicts with Aboriginal cultural heritage values					
SSD9176045 B62 (e)(iii)	Manage potential conflicts with Aboriginal cultural heritage values	Planning: - Revision of project design - Modification of project - Preparation for planned / authorised earthwork	- Adhere to the Aboriginal Cultural Heritage Management Plan prepared for the project. - Avoid where possible, recorded Aboriginal heritage sites. - Identify any areas where work is proposed that have not been adequately surveyed for Aboriginal cultural heritage.	Administrative Audit	Environmental Manager
SSD9176045 B62 (e)(iii)	Manage potential conflicts with Aboriginal cultural heritage values	Construction: - Earthwork Operation: - Earthwork - Fencing - Vehicle movements	Adhere to the Aboriginal Cultural Heritage Management Plan prepared for the project.	Administrative Audit	Environmental Manager

3.4.3. Agricultural Land management measures

A summary of biodiversity management measures to be taken in the 'Agricultural Land' are outlined in

Table 3-3.

Table 3-3: Agricultural Land management measures

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
Protect vegetation and fauna habitat outside of the TGEP ADA					
SSD9176045 B62 (e)(iv)	Protect vegetation and fauna habitat	Operation: Agricultural activities	- Adhere to the NSW Government Land Management Framework, including the <i>Land Management (Native Vegetation) Code 2018</i> (or current version). - Clear only to the minimum extent necessary for 'allowable activities' described in schedule 5A of the <i>Local Land Services Act 2013</i>. - Where possible maintain a sustainable grazing regime that favours over-sowing with native pastures as opposed to exotic perennial grasses. - Fence the boundary of Agricultural Land to a standard that prevents unauthorised human access, dumping of waste. - Maintain fencing to this standard. - Induct staff that unauthorised harm to native vegetation and fauna habitat is prohibited. - Induct staff to keep vehicles on established tracks, where practicable and feasible.	Administrative Audit	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC)
Manage the collection and propagation of seed					
SSD9176045 B62 (e)(v)	Manage the collection and propagation of seed	Operation: - Establishment of TGEP Offsets - Preparation for Rehabilitation	Collection of viable seed stock for key native flora species (i.e. <i>Eucalyptus conica</i> and <i>Casuarina cristata</i>) will be conducted to the minimum extent necessary to achieve biodiversity objectives.	Administrative Audit	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC)

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
			- Maximum native seed would be retained in the Agricultural Land Use zone to support natural regeneration. - Collection of seed would be undertaken in accordance with the Conservation Management Notes: Seed Collecting (OEH, 2011) (or latest version).		Environmental Manager
Minimise impact to protected fauna					
SSD9176045 B62 (d)(ii)	Minimise impacts to protected fauna in the Agricultural Land (vehicle strike)	Operation: Vehicle movements in the Agricultural Land Use zone	- Consider vehicle strike to native fauna when setting / reviewing speed limits in the Agricultural Land Use zone. - Implement reporting requirements for any fauna / vehicle interactions. - Ensure staff are inducted on how to reduce risk to fauna from vehicle strike.	Administrative Audit	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC)
SSD9176045 B62 (d)(ii)	Minimise impacts to protected fauna in the Agricultural Land (handling)	Operation: Protected fauna are encountered in the Agricultural Land Use zone	- Personnel will avoid handling wildlife where possible. If fauna is required to be moved on site at short notice (such as snakes), only suitably trained or qualified individuals are able to do so. - In the case of injured fauna, a nominated rescue agency or veterinarian is able to be contacted to provide advice on what actions to take as per the fauna handling and rescue procedure. (Appendix E)	Administrative Audit	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC)
Control pests					
SSD9176045 B62 (e)(vii)	Control weeds	Operation: - Ongoing - New weed infestation identified	- Carry out the pest plant control program across the Site (Appendix C). - Review the efficacy of the pest plant control program annually. - Adapt the pest plant control program to improve efficacy where necessary. - Any person carrying out herbicide application would be trained to do so and have the proper certificate	- Administrative Audit - Pest Plant Monitoring	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC)

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
			of completion/competency or statement of attainment issued by a registered training organisation.		
SSD9176045 B62 (e)(vii)	Control pest animals	Operation: - Ongoing - Annual Review - Pest animals are identified	- Carry out the pest animal control program across the Site (Appendix B). - Review the efficacy of the pest animal control program annually. - Adapt the pest animal control program to improve efficacy where necessary. - All food scraps and rubbish are to be appropriately disposed of in sealed containers.	- Administrative Audit - Pest Animal Monitoring	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC)
Control erosion					
SSD9176045 B62 (e)(viii)	Control erosion	Operation: Grazing	- Maintain sustainable stocking rates in grazing areas. - Maintain average bulk sward height above 10cm and pasture groundcover above 50 per cent. - Adapt stocking rates to long-term climatic conditions.	Administrative Audit	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC)
SSD9176045 B62 (e)(viii)	Control erosion	Operation: Cultivation	Restrict cultivation of dry soil on windy days.	Administrative Audit	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC)
Manage bushfire hazards					
SSD9176045 B62 (e)(xi)	Manage the risk of uncontrolled fire	Construction: - Earthwork, clearing, hot work Operation: - Machinery operation, hot work	- Adhere to the Emergency Response Plan prepared for the Site. - Ensure that there is suitable equipment to respond to any fires on the site. - Ensure compliance with total fire bans, hot work permit requirements, and machinery maintenance requirements / standards.	Administrative Audit	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC)

Source	Objective	Trigger	Management measures	Monitoring program	Responsibility
			Maintain records of hot work permits, fire permits, machinery maintenance.		
Manage potential conflicts with Aboriginal cultural heritage values					
SSD9176045 B62 (e)(iii)	Manage potential conflicts with Aboriginal cultural heritage values	Operation: - Earthwork - Fencing - Vehicle movements	- Adhere to relevant requirements under the Aboriginal Cultural Heritage Management Plan prepared for the Site. - Identify any areas where earthwork is proposed that have not been adequately surveyed for Aboriginal cultural heritage, and conduct an assessment according to the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales.	Administrative Audit	Senior Manager – Farming & Business Operations Toongi Pastoral Co. (TPC) Environmental Manager

3.4.4. TGO Offset management measures

Condition B62(c)(ii) requires a description of the measures that will be implemented to achieve the biodiversity offset strategy (originally imposed under project approval MP09_0155) as outlined in condition B58 of SSD 9176045. Table 3-4 includes detailed measurable and quantifiable performance and completion criteria, and triggers for remedial action.

Table 3-4: TGO Offset management measures

Objective	Target range	Monitoring	Trigger	Actions	Responsibility
Protect vegetation	Maintain or improve Vegetation Integrity (VI) score for each offset management zone for the life of the project	Annual BAM vegetation survey plots at established monitoring points and paired control sites	A decrease in VI score greater than 5 points is recorded in the absence of a similar decline at the paired control site	- Investigate the most likely cause of the difference, within two weeks of obtaining monitoring results. - After determining the most likely cause(s), develop and enact a plan to ameliorate or remediate and if required consult with the NSW environment agency. - Review the BMP and monitoring program for improvement opportunities annually.	Environment Manager
Control weeds	Pest flora species (weeds) comprise less than 5% of total	Quarterly weed cover survey at established	Weed species comprise greater than 10%	Record the location of the weed infestation on the weed management map (managed by TGO, see Appendix C).	Environment Coordinator

Objective	Target range	Monitoring	Trigger	Actions	Responsibility
	groundcover in all management zones for the life of the project	monitoring points within each biodiversity management zone	groundcover within biodiversity management zones	Enact the weed management strategy (Appendix C) for the identified weed species within one week (of appropriate weather) of a trigger being reported.	
Maintain fencing	Fences are maintained to a standard that excludes unauthorised human access, and herbivores	Quarterly fence inspection	- Any holes / gaps are identified in the boundary fence of the TGO Offsets - Any reports of livestock grazing in the TGO Offsets	- Grazing is to be managed in accordance with the conditions of Conservation PVP18458. - Repair the fence to a standard that excludes livestock. - Remediate any unauthorised harm (i.e. clean up illegally dumped rubbish).	Environment Coordinator
Manage pest animals	Pest fauna are managed to minimise impacts to biodiversity in the TGO Offsets	- Pest animal observations and recordings - Biodiversity Monitoring Program	Pest animals are recorded in the TGO Offsets	- Remove pest herbivores from the TGO Offsets as soon as reasonably practical. - Enact the pest animal management strategy at (Appendix B)	Environment Coordinator

3.4.5. TGEF Offset management measures

A summary of biodiversity management measures to be taken in the 'TGEF Offsets' is outlined in Table 3-5.

Table 3-5: TGEF Offset management measures

Objective	Target range	Monitoring	Trigger	Actions	Responsibility
Protect vegetation	Maintain or improve Vegetation Integrity (VI) score for each offset management zone for the life of the project	Annual BAM vegetation survey plots at established monitoring points and paired control sites	A decrease in VI score greater than 5 points is recorded in the absence of a similar decline at the paired control site	- Investigate the most likely cause of the difference, within two weeks of obtaining monitoring results. - After determining the most likely cause(s), develop and enact a plan to ameliorate or remediate and if required consult with the NSW environment agency. - Review the BMP and monitoring program for improvement opportunities annually.	Environment Manager

Objective	Target range	Monitoring	Trigger	Actions	Responsibility
Control weeds	Pest flora species (weeds) comprise less than 5% of total groundcover in all biodiversity management zones for the life of the project	Quarterly weed cover survey at established monitoring points within each biodiversity management zone	Weed species comprise greater than 10% groundcover within biodiversity management zones	- Record the location of the weed infestation on the weed management map. - Enact the weed management strategy (Appendix C) for the identified weed species within one week (of appropriate weather) of a trigger being reported.	Environment Coordinator
Maintain fencing	Fences are maintained to a standard that excludes unauthorised human access, and herbivores	Quarterly fence inspection	- Any holes / gaps are identified in the boundary fence of the TGEF Offsets - Any reports of livestock grazing in the TGEF Offsets	- Remove any livestock from the TGEF Offsets. - Repair the fence to a standard that excludes livestock. - Remediate any unauthorised harm (i.e. clean up illegally dumped rubbish).	Environment Coordinator
Manage pest animals	Pest fauna are managed to minimise impacts to biodiversity in the TGO Offsets	- Pest animal vigilance - Biodiversity Monitoring Program	Pest animals are recorded in the TGEF Offsets	- Remove pest herbivores from the TGEF Offsets as soon as reasonably practical. - Enact the pest animal management strategy at (Appendix B)	Environment Coordinator

3.5. Training and awareness

All personnel shall undergo biodiversity awareness training through the induction and re-induction process. Biodiversity management shall be a component of the competency-based site induction program. The following areas shall be covered in the induction:

- all conditions of SSD9176045, relevant to activities they carry out in respect of the development,
- the boundary of the biodiversity management zones – and the potential consequences of vegetation removal outside of the TGEF Approved Disturbance Area,
- bush-fire prevention measures to be adhered to on the Site,
- speed limits on Site,
- biosecurity management measures applicable to the Site, including vehicle and plant wash-down procedures, risks associated with importing soil from other regions; and,
- prohibition of unauthorised handling of native fauna.

The Environmental Coordinator shall be responsible for ensuring the appropriate biodiversity management training is included in the induction.

4. Assurance framework

4.1. Managing uncertainty

The adaptive management strategy identifies key uncertainties and risks associated with implementing the BioMP, responses to these, and proposed adaptations to changing circumstances.

Strategies to manage uncertainty are built into each part of the assurance framework. These strategies adhere to the following guiding principles:

- defining success against specific and measurable indicators,
- obtaining the **best available evidence**, that is –
 - o contemporary,
 - o verifiable,
 - o objective,
 - o relevant to the conservation outcome; and,
 - o representative of the sample population.
- Ensuring timely evaluation of the evidence informs adaptive management, decision making, and continual improvement in implementation.

4.1.1. Evidence based decision making

Evidence based decision making requires a systematic and rational approach to researching and analysing available evidence to inform the decision-making process. It helps people make well informed decisions about policies, programmes, and projects by putting the best available evidence from research at the heart of policy development and implementation (Davies, 2004).

For this BioMP, evidence-based decision making involves the following key processes:

- 
- Understanding the priority (Chapters 1 and 2),
 - Collect the best available evidence (Section 4.2),
 - Identifying and responding to problems (Section 4.3),
 - Monitoring the results (Section 4.2).

4.1.2. Key uncertainties

Key uncertainties addressed through the mechanisms provided in this chapter are:

- knowledge gaps in scientific understanding and responding to new knowledge,
- assumptions made in assessing potential impacts and benefits,
- how changes to government legislation, policies, plans, and advice is to be accounted for,
- effectiveness of biodiversity management measures to achieve the outcomes set in the BioMP; and,
- capacity of the proponent to ensure the BioMP is implemented.

Where unpredicted impacts are identified, mitigation measures will be implemented. The corrective actions to be undertaken in the event of unpredicted biodiversity impacts are described in Section 4.3 (adaptive management strategies).

4.2. Biodiversity monitoring program

The carrying out of monitoring or an environmental audit as per conditions of consent under this BioMP, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&AA Act – this means the following provisions apply:

- Application of Division (Section 9.38)
 - o It applies to significant developments or infrastructure projects that have government approval.
- Nature of Monitoring and Environmental Audits (Section 9.39)
 - o **Monitoring:** involves regularly checking the project's compliance with its approval and its environmental impact.
 - o **Environmental Audits:** are periodic or specific evaluations to inform both the project proponent and the authorities about compliance and environmental management.
- Minister's Authority (Section 9.40)
 - o The Minister can require monitoring or audits as a condition of project approval (as is the case for SSD9176045).
 - o These conditions can be set at the time of approval or later and can be changed or removed as needed.
- Conditions for Monitoring and Audits (Section 9.41)
 - o Monitoring conditions might require installing devices, analysing and reporting data, and certifying this data.
 - o Audit conditions must specify the audit's purpose and can require audits by the project proponent or an independent body, documentation, reports, and certification.
- Offences Relating to Monitoring and Audits (Section 9.42)
 - o It is illegal to knowingly include false or misleading information in monitoring or audit reports.
 - o Proponents must not omit materially relevant information in these reports.
 - o Proponents must keep monitoring data for at least 5 years and produce it upon request.
- Use of Information (Section 9.43)
 - o Information provided must be supplied, even if it's self-incriminating.
 - o Such information can be used by the Minister and is admissible in prosecutions. The Minister may also publish this information.

Biodiversity monitoring will be undertaken to determine compliance with the conditions of SSD 9176045. The monitoring will be done by an independent, suitably qualified, and experienced expert.

4.2.1. Pre-clearing survey

A pre-clearance survey aims to identify important fauna habitat which may be in use at or immediately prior to planned and approved vegetation clearing. Suitably experienced or qualified personnel will be present for the removal of hollow-bearing trees, logs or stags which could contain native fauna.

This process allows for an ecologist to provide real time specialist advice to minimise impacts on specific fauna habitat resources (Table 4-1).

Table 4-1: Pre-clearance survey method.

Pre-clearance survey	
Who (Responsibility)	Suitably qualified and experienced personnel referred to below as an observer (ecologist, professional wildlife catcher / spotter)
Will do what? (Method)	Survey vegetation ahead of planned clearing and ensure: • The extent of planned clearing has been clearly, accurately appropriately demarcated.

Pre-clearance survey	
	• Habitat / culturally modified trees that are to be avoided are clearly marked and identified to the machinery operator. • Where disturbance of habitat trees is unavoidable, the tree is assessed. • Where required, habitat trees are tapped by the excavator blade or bucket and left for 24 hours to give any potential inhabitants the opportunity to leave. • All habitat trees are subject to controlled falls and inspected on the ground by the observer. • If animals are spotted the observer advises the machine operator of the animal's location and how to ensure their safety. • If dislocated animals are encountered (excluding snakes) these will be inspected for injury and, if deemed suitable, translocated into remnant and retained native vegetation at an appropriate distance from the clearing. • If an animal is injured or unsuitable for translocation, the animal will be appropriately dealt with – including treatment by a wildlife veterinarian (if necessary) or subsequently released in a manner and place suitable for that animal.
Where? (Location)	The TGEP Approved Disturbance Area
How often? (Frequency)	Immediately prior to, and during, planned vegetation removal
How will we know? (Reporting)	After clearing is complete, the observer will provide a report detailing the results of surveys, fauna rescues, and any fauna injury. This report details: • The name and qualifications of the ecologist, wildlife carer or catcher / spotter present during clearing, • An assessment of the habitat and handling of fauna, • Information on clearing operations, dates, procedures, areas, • Live animal sightings, captures, any releases or injured/shocked wildlife, • Any dead animals located, • Photographs of rescued fauna; and, • May also include a recommendations section.
Is it required?	Condition B62 (d)(ii) requires the proponent to minimise impacts on fauna, including by undertaking pre-clearance surveys and translocation of threatened species as guided by the NSW Government's <i>Translocation Operational Policy 2019</i> (as amended from time to time).

4.2.2. Vegetation integrity monitoring

Vegetation integrity (VI) describes the degree to which the composition, structure, and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state. VI scores were obtained for each Plant Community Type (PCT) recorded on the Site during the impact assessment investigations (see section 2.2.3).

VI monitoring points are already established within the following Management Zones (see Table 4-2, and Figure 2-2):

- TGEP Approved Disturbance Area
- TGEP Operational Land
- TGO Offset.

Vegetation within the TGEP Offset management zone will be monitored under a separate management plan associated with the Biodiversity Stewardship Agreement.

Table 4-2: Vegetation integrity monitoring points GDA94 zone 55

Plot name	Monitoring zone	Easting	Northing	Bearing
Fuzzy 1	PCT201 (Good)	616525	6395086	253°
Fuzzy 2	PCT201 (Good)	612866	6387942	90°
Reveg 1	PCT201 (Rehabilitation)	614146	6395391	41°
Reveg 2	PCT201 (Rehabilitation)	614397	6395216	223°
Belah 1	PCT56 (Good)	616240	6394239	209°
Belah 2	PCT56 (Good)	616171	6394490	45°
Poplar 1	PCT56 (Good)	614419	6396000	286°
Pasture 1	PCT56 (Rehabilitation)	613932	6396240	220°
Pasture 2	PCT56 (Rehabilitation)	613059	6395167	177°
Grey 2	PCT76 (Good)	612904	6394839	180°
Grey 3	PCT76 (Good)	612987	6395342	177°
Yarren 1	PCT77 (Good)	614965	6389408	90°
Creek 1	PCT78 (Good)	613210	6394764	14°
Creek 2	PCT78 (Good)	614082	6395556	23°
Grey 4	PCT82 (Good)	615430	6390644	90°
Noise bund 1	WRE (Rehabilitation)	614942	6394977	78°
WRE2-1	WRE (Rehabilitation)	614567	6394877	128°
WRE2-2	WRE (Rehabilitation)	614274	6394814	213°
WRE3-1	WRE (Rehabilitation)	615892	6394823	183°
WRE3-2	WRE (Rehabilitation)	615338	6393910	346°

Table 4-3 provides the method for monitoring vegetation integrity.

Table 4-3: Vegetation integrity monitoring survey method.

Vegetation Integrity survey	
Who (Responsibility)	Accredited Assessor under the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020).
Will do what? (Method)	Complete full floristic vegetation survey plots in accordance with the BAM.
Where? (Location)	At each of the vegetation monitoring plots across the Site (Figure 2-2 and Table 4-2).

Vegetation Integrity survey	
How often? (Frequency)	Annually, in spring or early summer (September – December).
How will we know? (Reporting)	An annual Biodiversity Monitoring Report will contain the results of the vegetation integrity monitoring; and draw conclusions about those results – including any recommendations to improve management measures.
Is it required?	Condition B62 (e)(iv) requires the proponent to protect vegetation and fauna habitat outside of the TGEP ADA. It is necessary to monitor the protected vegetation and fauna habitat outside of the TGEP ADA to ensure that its condition remains stable or is improving with management.

4.2.3. Threatened flora

To date, no threatened flora species have been recorded on the Site. The introduction of biodiversity management measures (such as the exclusion of grazing animals), or a change in status of a known flora species on Site may mean that threatened flora species are identified on Site in the future. Table 4-4 provides the procedure for threatened flora monitoring.

Table 4-4: Threatened flora monitoring method.

Threatened flora monitoring	
Who (Responsibility)	Accredited Assessor under the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020).
Will do what? (Method)	- Review the list of threatened species known or predicted to occur within the Inland Slopes - Bogan-Macquarie IBRA sub-region and identify whether the species has been previously recorded on the Site. - Survey for occurrences of threatened flora in accordance with the guideline <i>Surveying threatened plants and their habitats</i> (DPIE, 2020).
Where? (Location)	- At each of the vegetation monitoring plots across the Site (see Figure 2-3 and Table 4-2). - At the location of any newly recorded threatened flora population identified on the Site.
How often? (Frequency)	- Annually, in spring or early summer (September – December). - Occasional survey during the recommended survey period for this plant, if that survey period falls outside the biodiversity monitoring survey period (September – December).
How will we know? (Reporting)	An annual Biodiversity Monitoring Report will contain the results of the survey effort and note any new threatened species recorded.
Is it required?	Condition B62 (e) requires the proponent to protect and enhance biodiversity values outside of the TGEP ADA. It is necessary to monitor the protected vegetation and fauna habitat outside of the TGEP ADA to ensure that its condition remains stable or is improving with management. Threatened flora presence is a strong indicator of improvement.

4.2.4. Pest plants

Under the *Biosecurity Act 2015*, the proponent has a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risks they encounter. Table 4-5 describes the methods to maintain continuous vigilance for pest plants and monitor the results of management actions.

Table 4-5: Pest plant monitoring methods.

Pest plant monitoring	Continuous vigilance	Annual monitoring
Who (Responsibility)	Environmental Manager	Accredited Assessor under the BAM.
Will do what? (Method)	- Survey for the weed species detailed in Appendix C. - Maintain a spatial register of known weed infestations. - Maintain a register of weed management actions.	- Survey for the weed species detailed in Appendix C. - Access the register of known weed infestations. - Access the register of weed management actions.
Where? (Location)	Across the entire Site.	At each of the vegetation monitoring plots across the Site (Figure 2-2 and Table 4-2).
How often? (Frequency)	Undertake seasonal (three monthly) weed survey across the Site.	Annually, in spring or early summer (September – December).
How will we know? (Reporting)	The Environmental Manager will be responsible for supplying data about pest plant management for the Annual Review.	An annual Biodiversity Monitoring Report will contain the results of the weed management effort and note any new weed infestations.
Is it required?	Condition B62(e)(vii) requires this BioMP to describe the measures to be implemented on the Site to control weeds. Monitoring for the presence of weeds, and treating infestations appropriately is a requirement of SSD 9176045, and the <i>Biosecurity Act 2015</i> .	

4.2.5. Fauna monitoring

Development Consent SSD 9176045 requires management measures to minimise impacts on fauna habitat resources and control feral pests. To measure the effectiveness of management measures, the following monitoring activities are required.

Threatened fauna

Multiple threatened fauna species have been recorded on the Site. The introduction of biodiversity management measures is expected to improve habitat suitability for threatened species across the Site. Table 4-6 provides the fauna monitoring method.

Table 4-6: Threatened fauna monitoring method.

Threatened fauna monitoring	
Who (Responsibility)	Accredited Assessor under the BAM.
Will do what? (Method)	Review the list of threatened species known or predicted to occur within the Inland Slopes - Bogan-Macquarie IBRA sub-region and identify whether the species has been previously recorded on the Site or is considered likely to occur. Targeted survey for presence / absence of threatened fauna in accordance with relevant guidelines, or if guidelines have not been provided, with regard to scientific literature.
Where? (Location)	Figure 4-1 maps the: - Fauna survey transects established across the Site. - Threatened fauna monitoring locations.
How often? (Frequency)	Annually, in spring or early summer (September – December).
How will we know? (Reporting)	An annual Biodiversity Monitoring Report will contain the results of the survey effort and note any new threatened species recorded.

Threatened fauna monitoring	
Is it required?	Condition B62 (f) requires the proponent to monitor the effectiveness of the measures taken to manage and protect fauna habitat outside of the TGEF ADA. Threatened fauna presence is a strong indicator of improvement.

Pest animals

Under the *Biosecurity Act 2015*, everyone has a general biosecurity duty – this means anyone who deals with biosecurity matter is required to prevent, eliminate, or minimise any biosecurity risks they encounter. Table 4-7 describes the methods to maintain continuous vigilance for pest animals and monitor the results of management actions.

Table 4-7: Pest animal monitoring techniques.

Pest animal monitoring	Continuous vigilance	Annual monitoring
Who (Responsibility)	Environmental Manager	Accredited Assessor under the BAM.
Will do what? (Method)	- Survey for the pest animal species detailed in Appendix B. - Maintain a record of pest animal sightings. - Maintain a register of pest animal management actions.	- Survey for the density of any key pest animal species (e.g. goats) detailed in Appendix B using the distance sampling survey on linear transects. - Survey presence / absence of other pest animal species. - Access the records of pest animal sightings. - Access the register of pest animal management actions.
Where? (Location)	Across the Site.	Across the Site.
How often? (Frequency)	Undertake seasonal (every six months) pest animal survey at night.	Annually, in spring or early summer (September – December).
How will we know? (Reporting)	The Environmental Manager will be responsible for supplying data about pest animal management for the Annual Review.	An annual Biodiversity Monitoring Report will contain the results of the pest animal management effort and note any pests recorded.
Is it required?	Condition B62 (e)(iv) requires this BioMP to describe the measures to be implemented on the Site to control pest animals. Monitoring for the presence of pests, and treating infestations appropriately is a requirement of SSD 9176045 and the <i>Biosecurity Act 2015</i>.	

Figure 4-1: Fauna monitoring locations established on the Site.

This Figure will be prepared after Year 1 monitoring.

4.3. Adaptive management strategies

The trigger action response plan contains management measures similar to those prescribed in section 3.4; however, these actions are triggered by detected non-conformances to the target range for particular environmental variables.

Adaptive management actions are presented in a tabulated format (Table 4-8) with column headings addressing:

- an objective, being an environmental variable to be managed – it relates to consent conditions / statutory obligations,
- a specific and measurable target range for each environmental variable,
- an achievable monitoring program for each target,
- a trigger (value outside of the target range),
- a realistic management action likely to place the variable back within the target range,
- responsibility - specific role(s) to carry out the monitoring, identify triggers, and commence the management action; and,
- a time frame for the monitoring program and management actions.

Environmental variables managed include those identified in the consent conditions, and specific biodiversity values and threats known on site.

4.3.1. Trigger, Action, Response Plan

Table 4-8: Trigger, Action, Response Plan

Objective	Target range	Monitoring	Trigger	Actions	Responsibility
Enhance vegetation integrity at offset sites B62 (e)(i)	Maintain or improve Vegetation Integrity (VI) score for each biodiversity offset site for the life of the project	Annual BAM vegetation survey plots at established monitoring points and paired control sites	A decrease in VI score greater than 5 points is recorded	• Investigate the most likely cause of the difference, within two weeks of obtaining monitoring results. • After determining the most likely cause(s), develop and enact a plan	Environment Manager

Objective	Target range	Monitoring	Trigger	Actions	Responsibility
				to ameliorate or remediate in consultation with suitably qualified personnel (ecologist / soil scientist). Review the BioMP and monitoring program for improvement opportunities annually.	
Remediate harm D4 (b) and (c)	No unauthorised impacts outside the ADA	Constant surveillance Annual - Biodiversity Monitoring Program	Construction / vegetation clearing impacts outside of the ADA are detected.	- Investigate the most likely cause of the difference, within two weeks of obtaining monitoring results. - Consider all reasonable and feasible options for remediation. - Implement reasonable remediation measures as directed by	Environment Manager

Objective	Target range	Monitoring	Trigger	Actions	Responsibility
				the Planning Secretary.	
Control weeds B62 (e)(vii)	Pest flora species (weeds) comprise less than 5% of total groundcover in all biodiversity management zones for the life of the project	Quarterly weed cover survey within each biodiversity management zone	Weed species comprise greater than 10% groundcover within any one hectare	- Record the location of the weed infestation on the weed management map. - Enact the weed management strategy (Appendix C) for the identified weed species within one week (of appropriate weather) of a trigger being reported.	Environment Coordinator
Control pest animals B62 (e)(vii)	Pest animal species are maintained at or below baseline levels	- Quarterly – pest animal survey - Annual - Biodiversity Monitoring Program	Any recorded increase in pest animal sightings during the pest animal survey.	Manage the pest animal population on the Site using any approved methods. Refer to Appendix B – Pest animal control program.	Environment Manager

Objective	Target range	Monitoring	Trigger	Actions	Responsibility
Control erosion B62 (e)(viii)	No increase in erosion detected at the site during operation	- Constant surveillance - Annual - Biodiversity Monitoring Program	- Noticeable erosion - Visible sedimentation / run off associated with rainfall events	Maintain erosion and sedimentation control measures; adapt these where necessary to control erosion.	Environment Manager
Manage bushfire hazards B62 (e)(xi)	No uncontrolled fire impacting vegetation on the site	Constant surveillance	Any unexpected / unauthorised fire occurring on or adjacent to the site	Immediately implement fire control measures and contact the NSW Rural Fire Brigade as soon as necessary.	Environment Manager

4.4. Incident management

The proponent will manage any biodiversity incident or non-compliance at Site in accordance with the incident and non-compliance protocols found in the Environmental Management Strategy (EMS) (see Part D of SSD9176045).

4.4.1. Non-compliance protocol

The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance. A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Any non-compliances with relevant conditions of SSD9176045 or relevant biodiversity regulations will be reported to the Environment and Community Manager as soon as possible, and in any event within 24 hours:

- Office: 02 6867 9780
- Direct: 02 6867 9044.

Non-compliances will be investigated and the root cause will be identified and addressed in accordance with the framework outlined in this chapter. If necessary, this BioMP and / or the Trigger, Action, Response Plan will be updated to address the non-compliance and prevent future non-compliances.

4.4.2. Complaint management

The EMS includes a detailed complaints management procedure. This sub-section records the procedures that would be implemented following the receipt of a biodiversity-related complaint.

Complaints can be directed to the Company via phone or email. These details are:

- **Email:** tomingleygold@alkane.com.au
- **Phone:** 6867 9780

Following receipt of any biodiversity-related complaint, Site personnel would implement the following procedure:

- The complaint will be reviewed by the TGO Environment department to determine the nature, date, and time of the biodiversity incident,
- The Environment department would complete an internal investigation into the biodiversity-related complaint and take any appropriate action to rectify harm, prevent further harm, or otherwise resolve the complaint.

Appropriate actions may include:

- Reporting the incident to the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) where unauthorised harm to threatened species or communities has occurred.
- Revising and updating the internal environmental management protocols, including this document, induction documentation, etc.
- Remediating unauthorised harm or rehabilitating impacted areas.

5. Governance

Governance encompasses the system by which this Biodiversity Management Plan is controlled and operates, as well as the mechanisms by which it, and its people, are held to account. Decision making, risk management, compliance, and administration are all elements of governance.

5.1. Responsibilities

The roles and responsibilities for implementing this BioMP are outlined in Table 5-1. It is the responsibility of the proponent to effectively implement the BioMP.

Table 5-1: Roles and responsibility for implementing this BioMP.

Position	Accountable Task
General Manager	• Ensure the resources are available for the implementation of this BioMP. • Be accountable for the overall environmental performance of the Mine, including the outcomes of this BioMP. • Ensure that the project activities are carried out in accordance with the consent conditions; especially ensuring that vegetation removal is restricted to the TGEF Approved Disturbance Area.
Environmental Manager	• Ensure requirements of this BioMP are effectively implemented. • Ensure all internal and external reporting requirements are met. • Ensure environmental risks are identified and managed. • Ensure all personnel undertaking works in relation to this management plan are trained and competent.
Environmental Coordinator	• Ensure the results of all monitoring are recorded. • Update the BioMP as required. • Organise, review, and analyse all monitoring data.
All Personnel	• Adhere to the proponents environmental management procedures. • Report environmental incidents to the Environmental department.

5.2. Risk management

Risk management is an element of evidence-based decision making. The risk management procedure involves the following key steps:

- **Identify potential risks:**
 - o identify risks that may impact your ability to achieve biodiversity objectives / outcomes as identified in section 3.1,
 - o provide a clear description of the risk that needs to be managed,
 - o determine the risk location; and,
 - o identify the risk owner.
- **Understand the risks:**
 - o analyse consequences,
 - o analyse likelihood,
 - o rate inherent risk,
 - o identify controls,
 - o determine the control owners,
 - o assess current control effectiveness,
 - o assess residual consequence and likelihood; and,
 - o rate residual risk.

- **Manage the risks:**
 - o implement the controls identified for each risk; and,
 - o for all risks with a high or very high residual risk rating, a risk treatment plan is required.
- **Review the risks:**
 - o identify and record new / emerging risks,
 - o monitor the risks and the implementation of controls,
 - o review the risks; and,
 - o report on risks, including the progress of risk treatment plans, the effectiveness of controls, and any common factors contributing to new / emerging risks.

Risk categories relating to biodiversity are provided in Table 5-2.

Table 5-2: Risk categories for biodiversity matters.

Category	Consequences
Insignificant Level 1	• Environmental impacts (flora, fauna, soil, air, water, noise, waste, heritage items) contained within approved disturbance area boundaries. • Change from normal conditions however remains within regulatory requirements, and industry guidelines. • No remedial works required to address pollution or damage. • Negligible impact on the environment, including flora, fauna, and ecosystems.
Minor Level 2	• Environmental impacts (flora, fauna, soil, air, water, noise, waste, heritage items) are minor, localised, short-term (for life of the project) and able to be repaired / rehabilitated. • Complies with regulatory requirements, breach of industry guidelines. • Minor / short-term site remedial works required to address pollution or damage. • Some localised impact on the environment, such as damage to flora, fauna or ecosystems which will recover in a short-term period.
Moderate Level 3	• Moderate, short term environmental impacts (flora, fauna, soil, air, water, noise, waste, heritage items), able to be repaired / rehabilitated. • Breach of regulatory requirements or regulatory licences, issue of a warning or penalty notice. • Threatens local area biodiversity, heritage, remediated lands management action required. • Damage to flora, fauna or ecosystems which will recover in a medium to long-term period.
Major Level 4	• Significant environmental harm (flora, fauna, soil, air, water, noise, waste, heritage items) requiring comprehensive remedial works. • Breach of regulatory requirements resulting in penalty notice and state-wide media attention. • Medium to long term loss of flora / fauna from an area, or significant degradation of habitat quality, or loss / damage to a heritage item, or damage to remediated lands infrastructure. • Loss of local populations of particular flora or fauna.
Extreme Level 5	• Severe environmental harm (flora, fauna, soil, air, water, noise, waste, heritage items) requiring extensive remedial works. • Significant breach of regulatory requirements resulting in prosecution and sustained national media coverage. • Long-term or permanent loss of flora/fauna from an area, or significant degradation of habitat quality, or loss / damage to a heritage item, or significant damage to remediated lands infrastructure.

Category	Consequences
	Extinction, loss of species, ecosystems collapse and/or key phylogenetic individual.

Likelihood categories for biodiversity matters are provided in Table 5-3.

Table 5-3: Risk likelihood rating.

Likelihood rating	Description	Frequency	Probability
Almost certain Level 5	The event will occur on an annual basis.	More than once per year.	>95%
Likely Level 4	The event has occurred several times or more in your career.	At least once per 1 year.	>60 – 95%
Possible Level 3	The event might occur once in your career.	At least once in 3 years.	>30 – 60%
Unlikely Level 2	The event does occur somewhere from time to time.	At least once in 10 years.	>5 – 30%
Rare Level 1	Heard of something like the event occurring elsewhere.	Less than once in 30 years.	<5%

The risk assessment matrix is provided in Table 5-4. An explanation of the risk levels is included in Table 5-5.

Table 5-4: Risk assessment matrix.

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Extreme
Almost certain	Medium (11)	High (16)	Very High (20)	Very High (23)	Very High (25)
Likely	Medium (7)	Medium (12)	High (17)	Very High (21)	Very High (24)
Possible	Low (4)	Medium (8)	High (13)	High (18)	Very High (22)
Unlikely	Low (2)	Low (5)	Medium (9)	High (14)	Very High (19)
Rare	Low (1)	Low (3)	Medium (6)	High (10)	High (15)

Table 5-5: Controlled risk level action table.

Controlled Risk Level Action	
Level	Action
Low	Ensure identified control measures are applied as required. (Competent) supervisor approval required to proceed.
Medium	Ensure identified control measures are applied as required. (Competent) supervisor approval required to proceed.
High	Do not proceed. Department Superintendent (Manager) approval required.
Very High	Do not proceed. Area Manager to address the problem.

5.3. Conservation bond

The Applicant has and will continue to maintain a conservation bond with the NSW DCCEEW to ensure the biodiversity offset strategy as per the Biodiversity Offset imposed under the TGO project approval MP 09-0155 is implemented in accordance with the performance and completion criteria of the original TGO Biodiversity Management Plan.

The sum of the bond must cover the full cost of implementing the biodiversity offset strategy and be verified by a suitably qualified rehabilitation specialist or quantity surveyor.

If the biodiversity offset strategy is implemented to the satisfaction of the Secretary, the Secretary will release the conservation bond. If the biodiversity offset strategy is not implemented to the satisfaction of the Secretary, the Secretary will call in all or part of the conservation bond and arrange for the satisfactory implementation of the biodiversity offset.

If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all or part of the conservation bond and arrange for the satisfactory completion of the relevant works.

The Conservation Bond must be reviewed and if required, an updated bond must be lodged with the Department within 3 months following:

- any update or revision to the Biodiversity Management Plan,
- completion of an Independent Environmental Audit; or,
- a request by the Planning Secretary.

5.4. Reporting

Reporting on outcomes helps to inform key decision points throughout the life of the project. The reports will inform decision making to improve the design and delivery of biodiversity management actions, reorient investment during the life of the project, and fulfil accountability requirements. At the conclusion of the project, these reports can be used to collate learning and inform future programs.

The proponent will provide for the required reporting outlined in the following sections. Reports will be reviewed to inform decision-making, and any adaptive management measures.

5.4.1. Annual reporting

The proponent is required to prepare an Annual Review each year in accordance with condition D10, which states:

By the end of September each year after the date of physical commencement of development under this consent, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:

- (a) describe the development (including any rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;*
- (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, including a comparison of these results against the:*
 - (i) relevant statutory requirements, limits, or performance measures/criteria,*

- (ii) *requirements of any plan or program required under this consent,*
- (iii) *monitoring results of previous years; and,*
- (iv) *relevant predictions in the document/s listed in condition A2(c).*
- (c) *identify any non-compliance or incident which occurred in the previous financial year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence,*
- (d) *evaluate and report on compliance with the performance measures, criteria and operating conditions of this consent,*
- (e) *identify any trends in the monitoring data over the life of the development,*
- (f) *identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and,*
- (g) *describe what measures will be implemented over the next financial year to improve the environmental performance of the development.*

Condition D11 requires that copies of the Annual Review are submitted to Council and made available to the CCC and any interested person upon request. It will also be available on the Alkane website.

5.4.2. Incident reporting

An incident is defined in the consent as:

An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.

- A written incident notification addressing the requirements set out below must be submitted to the Planning Secretary via the Major Projects website within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition D8 or, having given such notification, subsequently forms the view that an incident has not occurred.
- Written notification of an incident must:
 - o identify the development and application number;
 - o provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
 - o identify how the incident was detected;
 - o identify when the Applicant became aware of the incident;
 - o identify any actual or potential non-compliance with conditions of consent;
 - o describe what immediate steps were taken in relation to the incident;
 - o identify further action(s) that will be taken in relation to the incident; and
 - o identify a project contact for further communication regarding the incident.
- Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
- The Incident Report must include:
 - o a summary of the incident;
 - o outcomes of an incident investigation, including identification of the cause of the incident;

- o details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
- o details of any communication with other stakeholders regarding the incident.

5.5. Independent environmental audit

The Proponent will commission and provide for an Independent Environmental Audit in accordance with conditions D12 and D13 which state:

Within one year of the date of physical commencement of development under this consent, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The audit must:

- (a) *be prepared in accordance with the Independent Audit Post Approval Requirements (NSW Government 2020); and*
- (b) *be submitted, to the satisfaction of the Planning Secretary, within two months of undertaking the independent audit site inspection, unless otherwise agreed by the Planning Secretary.*

And;

In accordance with the specific requirements of the Independent Audit Post Approval Requirements (NSW Government 2020), the Applicant must:

- (a) *review and respond to each Independent Audit Report prepared under Condition D12 of this consent;*
- (b) *submit a response to the Planning Secretary and any other NSW agency that requests it, together with a timetable for the implementation of the recommendations of the Independent Audit Report;*
- (c) *implement the recommendations to the satisfaction of the Planning Secretary; and*
- (d) *make each Independent Audit Report and response to it publicly available no later than 60 days after submission to the Planning Secretary.*

5.6. Information management

The proponent will manage and store information, data, and records relating to the implementation of this BioMP in a way that ensures it is protected and it can be used to review the effectiveness of management measures and to identify any changes that need to be made to achieve the environmental objectives.

This includes all documents, records, reports, and results required in accordance with condition D15 of SSD 9176045 that will be available on the Alkane website.

5.7. Review and improvement

A continuous learning approach enables improvement in delivery of biodiversity management measures, and achievement of desired biodiversity outcomes.

This BioMP will be reviewed and revised as necessary in accordance with the requirements of Condition D6 of SSD 9176045 which states that reviews must be conducted:

Within three months of:

- a) *the submission of an incident report under condition D8;*
- b) *the submission of an Annual Review under condition D10;*
- c) *the submission of an Independent Environmental Audit under condition D12; or*

- d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise);
- e) notification of a change in development phase under condition A5; or
- f) a direction of the Secretary under condition A3

the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.

As part of the review process the proponent will assess the adequacy of the plan to meet the requirements contained in the relevant statutory approvals and any opportunities for improvement. The assessment will include a review of data and related trends identified in the Annual Review, a consideration of recommendations from an Independent Environmental Audit and findings arising from any incident report.

If required this plan will be updated in consultation with the Department, and other relevant agencies.

5.7.1. Authorship

Condition B62(a) of SSD 9176045 requires the BioMP to be prepared by a suitably qualified and experienced person. The qualifications and experience of authors is provided in Table 5-6.

Table 5-6: Qualifications and experience of personnel preparing the BioMP

Author	Role	Qualifications
Rowan Murphy	Lead author	• B. Env. Sc. University of New England. • LLB. University of New England. • NSW Biodiversity Assessment Method Accredited Assessor: BAAS18152.
Addy Watson	Lead reviewer / Quality management	• Grad. Dip. Captive Vertebrate Management, Charles Sturt University • Grad. Cert. Social Impact, University of NSW • B. Env. Sc. University of New England. • Diploma Project Management • NSW Biodiversity Assessment Method Accredited Assessor: BAAS19066.
Phillip Cameron	Review	• CEnvP, BSc, Ass Dip App Sci, BAM accredited assessor (BAAS17082)

5.7.2. Consultation

Condition B62(a) requires this management plan to be prepared in consultation with the NSW DCCEEW. Feedback from the relevant authorities is provided in Appendix A and outlined in Table 5-6.

Table 5-7: Consultation log.

Authority	Date	Reference	Comments
NSW DCCEEW	6 January 2025	DOC24/1067283-4	BCS has reviewed the BioMP as well as the Construction Environmental Construction Plan (CEMP) and the Rehabilitation Strategy (RS). BCS notes that the BioMP is a comprehensive document that thoroughly addresses the requirements of the consent conditions. Conversely, in many instances, the CEMP and RS fail to provide the detail that is expected in

Authority	Date	Reference	Comments
			these documents. These management plans should align. Where the BioMP contains detailed information that is relevant to other management plans this should be replicated in these plans.

5.7.3. Revision protocol

In addition to the requirements outlined in condition D6 (above), the Environment Manager will review the results and recommendations of the annual Biodiversity Monitoring Program report. If changes to the management measures are deemed appropriate in response to these recommendations, this BioMP will be updated accordingly.

5.7.4. Revision register

Table 5-7 provides the revision register for this document.

Table 5-8: Revision register.

Author	Date	Version	Summary of revision
AREA Environmental & Heritage Consultants Pty Ltd	5 February 2024	V1.0	Initial draft of BioMP
AREA Environmental & Heritage Consultants Pty Ltd	16 December 2024	V2.3	Revised draft of BioMP approved by TGO.
AREA Environmental & Heritage Consultants Pty Ltd	07 January 2025	V3.0	Finalised BioMP inclusive of agency consultation.
AREA Environmental & Heritage Consultants Pty Ltd	05 May 2025	V3.1	Updated the BioMP in response to an RFI by Department of Planning, Housing and Infrastructure

References

- AREA. (2021, December). *Biodiversity Development Assessment Report: Tomingley Gold Extension Project*. Retrieved from NSW Government Department of Planning and Environment - Major Projects:
<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-9176045%2120220125T213558.528%20GMT>
- Centre for Invasive Species Solutions. (2021). *Pest animal toolkits*. Retrieved from PestSmart:
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- Davies, P. (2004, February 19). Is Evidence-Based Government Possible? *4th Annual Campbell Collaboration Colloquium*. Washington, DC, United States of America.
- DPIE. (2020, October). *Biodiversity Assessment Method*. Retrieved from NSW Department of Planning, Industry and Environment: <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/biodiversity-assessment-method-2020-200438.pdf>
- DPIE. (2020, April). *Hygiene guidelines: Protocols to protect priority biodiversity areas in NSW from Phytophthora cinnamomi, myrtle rust, amphibian chytrid fungus and invasive plants*. Retrieved from NSW Government Department of Planning, Industry and Environment:
<https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Wildlife-management/saving-our-species-hygiene-guidelines-200164.pdf>
- DPIE. (2020, April). *Surveying threatened plants and their habitats*. Retrieved from NSW Government Department of Planning, Industry and Environment:
<https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/surveying-threatened-plants-and-habitats-nsw-survey-guide-biodiversity-assessment-method-200146.pdf>
- Oliver, I., Dorrough, J., & Seidel, J. (2021). A new Vegetation Integrity metric for trading losses and gains in terrestrial biodiversity value. *Ecological Indicators*, 124, 1-12. Retrieved April 2023, from
<https://reader.elsevier.com/reader/sd/pii/S1470160X21000066?token=8D0C72F80D6F2DA255639C3AC8783A24A7A3E7D0711A60B530063796D0E38A76A90305DA086DEB074C5F059EE77050FF&originRegion=us-east-1&originCreation=20230412032150>

Appendix A: Consultation log



Department of Climate Change, Energy, the Environment and Water

Your ref: SSD 9176045
Our ref: DOC24/1067283-4

David Pritchard
Environment & Community Manager
Tomingley Gold Operations
DPritchard@alkane.com.au

Dear David

Tomingley Gold Operations – Biodiversity Management Plan

Thank you for your request via the NSW Planning Portal dated 16 December 2024 to the Biodiversity, Conservation and Science Group (BCS) of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) inviting comments on the Biodiversity Management Plan (BMP) for the Tomingley Gold Project.

BCS has reviewed the BMP as well as the Construction Environmental Construction Plan (CEMP) and the Rehabilitation Strategy (RS). BCS notes that the BMP is a comprehensive document that thoroughly addresses the requirements of the consent conditions. Conversely, in many instances, the CEMP and RS fail to provide the detail that is expected in these documents. These management plans should align. Where the BMP contains detailed information that is relevant to other management plans this should be replicated in these plans.

Feedback on the CEMP and RS is provided separately in DOC24/1067283-5 and DOC24/1067283-6.

If you have any questions about this advice, please do not hesitate to contact David Geering, Senior Conservation Planning Officer, via david.geering@environment.nsw.gov.au or (02) 6885 0335.

Yours sincerely,



Samantha Wynn
Senior Team Leader Planning, North West
Biodiversity, Conservation and Science Group

6 January 2025

Department of Planning, Housing and Infrastructure



Our ref: SSD-9176045-PA-23

David Pritchard
Environment and Community Manager
Tomingley Gold Operations Pty Ltd

21/03/2025

Subject: Tomingley Extension (SSD-9176045) - Biodiversity Management Plan

Dear Mr. Pritchard,

I refer to the Biodiversity Management Plan submitted to the Department of Planning, Housing and Infrastructure (the Department) as required under the conditions of approval for the Tomingley Extension (SSD-9176045). The Department has carefully reviewed the document and requests that you provide further information.

Please submit a revised document that addresses the comments provided in the attached review table.

You are requested to provide the information, or notification that the information will not be provided, to the Department by Friday 11 April 2025. If you are unable to provide the requested information within this timeframe, you are required to provide, and commit to, a timeframe detailing the provision of this information.

If you have any questions, please contact Scotney Moore, on 02 9274 6342.

Yours sincerely



Wayne Jones
Team Leader - Post Approval
Resource Assessments

As nominee of the Planning Secretary

Appendix B: Pest animal control program

Under to the *Biosecurity Act 2015* (NSW) pest animals are any species (other than native species) that present a biosecurity threat. A pest means a plant or animal (other than a human) that has an adverse effect on, or is suspected of having an adverse effect on, the environment, the economy, or the community because it has the potential to:

- (a) out-compete other organisms for resources, including food, water, nutrients, habitat, and sunlight, or
- (b) prey or feed on other organisms, or
- (c) transmit disease to other organisms, or
- (d) cause harm to other organisms through its toxicity, or
- (e) otherwise reduce the productivity of agricultural systems or the value of agricultural products, or
- (f) damage infrastructure, or
- (g) reduce the amenity or aesthetic value of premises, or
- (h) harm or reduce biodiversity.

Pest animals have been previously recorded on the Site; and require ongoing management. The following management plans have been with assistance and significant contribution from the Australian Government PestSmart website (Centre for Invasive Species Solutions, 2021).

Feral cat (*Felis catus*)

Feral cats are solitary and predominantly nocturnal, spending most of the day in the safety of a shelter such as a burrow, log, or rock pile. Rabbits have aided their spread by providing food and burrows for shelter. Males can occupy a home range of ten square kilometres, but this may be even larger if food supplies are scarce. Females have much smaller territories.

Feral cats are carnivores and can survive with limited access to water, as they use moisture from their prey. They generally eat small mammals, but also catch birds, reptiles, amphibians, fish, and insects, taking prey up to the size of a brush-tail possum.

Objectives

The main objective of this feral cat management plan is to reduce damage to native fauna occurring on Site. Success will be measured by increased population size estimates of native fauna (indicator woodland bird species) over 5 years; however, management actions will continue for the life of the Mine.

Integrated approach (with fox control)

Affordable feral cat control strategies are limited in their effectiveness. Effective control strategies (such as exclusion fencing) are expensive. An integrated approach to feral cat control as a by-product of fox control is reasonable.

A key conclusion of feral cat control studies is that coordinated and sustained effort is required to minimise population numbers, and therefore impact, of feral cats.

Control actions

Two effective control action are currently *available* on the Site to manage feral cats:

Action	Method	Location	Frequency	Responsibility
Trapping	NSWCAT SOP2 Trapping of feral cats using cage traps	Across the Site	Opportunistic in problem areas, as required	Environmental Manager
Lethal baiting	Curiosity® bait for feral cats	Across the Site	As needed, upon recommendation / consideration.	Environmental Manager

Monitoring

Native fauna (feral cat prey) abundance will be monitored through the Biodiversity Monitoring Program. This will serve as an indicator of success for the feral cat control program, in conjunction with other actions which are designed to benefit these populations (e.g., fox control, habitat management, etc.).

Review

This feral cat control plan will be reviewed annually to:

- report on the efficacy of control actions,
- calculate the cost of control actions,
- identify any new and improved control options available (i.e. [Curiosity®](#) bait for feral cats),
- identify any non-target or indirect impacts; and,
- improve the implementation of control actions.

European red fox (*Vulpes vulpes*)

The fox has long been recognised as a serious threat to Australian native fauna. Native Australian fauna did not evolve with the fox and hence have few predation avoidance strategies; a problem further compounded by habitat fragmentation since European settlement.

Fox control results not only in substantial increases in the population of some marsupials, but also wider habitat use once predation pressure had been removed.

Objectives

The main objective of fox management is to reduce damage to native fauna occurring on Site. Success will be measured by increased population size estimates of native fauna over 5 years and lack of fox sitings, scat and dens; however, management actions will continue for the life of the Mine.

Integrated approach (with cat and rabbit control)

Fox issues are complicated and cannot be considered in isolation from other property management activities. Foxes share complex relationships with other animals (both predators and prey species) so their control should be just one aspect of an integrated approach to the management of both farming and natural resource systems.

Rabbits are a major food source for foxes. When rabbit numbers are low, fox numbers are also generally low. Controlling foxes without also controlling rabbits can lead to an increase in rabbit

numbers, which can then allow a faster recovery for the fox population. By decreasing the amount of alternative food available, rabbit control can also increase the effectiveness of fox control programs.

Cats and other predators: Foxes competitively interact with other predators such as feral cats, wild dogs, varanid lizards (e.g., goannas), and native quolls. When foxes are removed through control programs, these other predators can potentially increase in numbers. They could in turn have a greater impact on the prey species in that environment. This is referred to as the mesopredator release hypothesis. Emerging evidence supporting this concept highlights the importance of considering the whole system when managing foxes, especially for conservation outcomes.

Control actions

One current effective mechanism of control is available for managing foxes on the Site:

Action	Method	Location	Frequency	Responsibility
Lethal baiting	NSWFOX SOP1 Ground baiting of foxes with sodium monofluoroacetate (1080)	Across the Site	Ongoing	Environment Manager
Shooting	NSWFOX SOP3 Ground shooting of foxes	Across the Site	Ongoing	Environment Manager

Monitoring

Native fauna (fox prey) abundance will be monitored through the Biodiversity Monitoring Program. This will serve as an indicator of success for the fox control plan, in conjunction with other actions which are designed to benefit these populations (e.g., feral cat control, habitat management, etc.).

Review

This fox control plan will be reviewed annually to:

- report on the efficacy of control actions,
- calculate the cost of control actions,
- identify any new and improved control options available,
- identify any non-target or indirect impacts; and,
- improve the implementation of control actions.

Goat (*Capra hircus*)

Feral goats have a major effect on native vegetation through soil damage and overgrazing of native herbs, grasses, shrubs, and trees, which can cause erosion and prevent regeneration. Particularly in the rangelands, they compete with domestic livestock for food. Such competition can become severe when food is limited during drought. They foul waterholes and can spread weeds through seeds carried in their dung. Feral goats can also compete with native animals for food, water, and shelter.

Objectives

The objective of the goat control plan is to minimise the impact of grazing on native vegetation communities which will:

- maximise groundcover (grasses and shrubs),
- reduce erosion,
- increase resistance against invasions of pest plants,
- increase the VI score of native vegetation communities; and,
- increase fauna habitat.

Control actions

Two effective control methods have been identified to manage a feral goat population on the Site:

Action	Method	Location	Frequency	Responsibility
Exclusion fencing	Effective fencing at a standard that will exclude incursions by goats	The boundary of the Site	Once, prior to conducting Trap and Sale of goats	Environment Manager
Exclusion fencing (threatened plants)	Appropriately robust exclusion fencing	Around any discovered populations of threatened plants on the Site	Once, following identification of a threatened plant population	Environment Manager
Trap and sale	NSWGOAT SOP4 Trapping of feral goats: Swinging one-way gate traps Loading and transporting goats	Around large artificial water points (dams) on the Site	Opportunistically when no / few kids observed to be under 6 months old	Environment Manager

Monitoring

The success of removing feral goats from the Site will be measured via an increase of VI score at vegetation monitoring plots; and by a reduction in incidental observation of feral goats during the annual surveys for the Biodiversity Monitoring Program.

Review

This goat control plan will be reviewed annually to:

- report on the efficacy of control actions,
- calculate the cost of control actions,
- identify any new and improved control options available,
- identify any non-target or indirect impacts; and,
- improve the implementation of control actions.

Feral pig (*Sus scrofa*)

Although feral pigs are often regarded as having deleterious effects on the environment, there is little objective information available on their impact. The most important environmental impacts are

likely to be habitat modification through selective feeding, trampling damage and rooting for underground parts of plants and invertebrates; as well as predation on, competition with, or disturbance of, a range of native animals.

Feral pigs are the main wild animal of concern in Australia in relation to the potential spread of exotic diseases, particularly foot-and-mouth disease (FMD), the main exotic disease of concern in Australia. Feral pigs can act as hosts or vectors of several endemic and exotic diseases and parasites that can affect other animals, including domestic livestock and humans. The major endemic diseases and parasites of concern are leptospirosis, brucellosis, melioidosis, tuberculosis and sparganosis. The involvement of feral pigs in an exotic disease outbreak could delay disease detection; increase the rate and extent of disease spread; make disease eradication measures expensive, time-consuming or impossible; and have severe repercussions for Australia's livestock industries.

Objectives

The primary objectives of feral pig control are to:

- exclude the pigs from coinhabiting areas frequented by humans (around the various Site compounds)
- protect any threatened plant populations from being impacted by feral pigs
- reduce the population of feral pigs in the landscape.

Control actions

To meet the specific objectives outlined above, the following controls actions are available.

Action	Method	Location	Frequency	Responsibility
No food scraps / waste available in the environment	Induct staff not to drop food waste anywhere but a sealed waste container. Ensure all kitchen waste is appropriately disposed of.	Across the Site.	Ongoing.	Environment Manager
Fence off any threatened plant populations which may be impacted by feral pigs	Appropriately robust exclusion fencing	Around any discovered populations of threatened plants on the Site	Once, following identification of a threatened plant population	Environment Manager

Monitoring

The presence of pigs on the Site will be continuously monitored throughout the life of the project. If a significant increase in feral pigs numbers (or impact) is observed, this pest animal control program will be revised.

Review

This feral pig control plan will be reviewed annually to:

- report on the efficacy of control actions,

- calculate the cost of control actions,
- identify any new and improved control options available,
- identify any non-target or indirect impacts; and,
- improve the implementation of control actions.

European rabbit (*Oryctolagus cuniculus*)

Large populations of rabbits are relatively easy to detect as the damage they cause is usually widespread and highly visible. However, the damage caused by low density rabbit populations can be much harder to identify - and may be more serious (e.g. preventing regeneration of an endangered plant species). Rabbit numbers, and changes in their impact, can vary dramatically in a short period of time. Without ongoing monitoring and control, these changes can go unnoticed, and the problem can get out of hand, resulting in higher management costs.

Objectives

The objective of the rabbit control plan is to minimise the impact of grazing on native vegetation communities which will:

- maximise groundcover (grasses and shrubs),
- reduce erosion,
- increase resistance against invasions of pest plants,
- increase the VI score of native vegetation communities; and,
- increase fauna habitat.

Integrated approach (with fox control)

Rabbits are a major food source for foxes. When rabbit numbers are low, fox numbers are also generally low. Controlling foxes without also controlling rabbits can lead to an increase in rabbit numbers, which can then allow a faster recovery for the fox population. By decreasing the amount of alternative food available, rabbit control can also increase the effectiveness of fox control programs.

Control actions

The following management actions are appropriate for controlling rabbits on the Site:

Action	Method	Location	Frequency	Responsibility
Rabbit warren destruction by ripping	NSWRAB SOP5 Rabbit warren destruction by ripping	Identified rabbit warrens	Opportunistically, when warrens are detected	Environment Manager
Exclusion fencing (threatened plants)	Appropriately robust exclusion fencing	Around any discovered populations of threatened plants on the Site	Once, following identification of a threatened plant population	Environment Manager

Monitoring

The success of removing rabbits from the Site will be measured via an increase of VI score at vegetation monitoring plots; and by a reduction in incidental observation of rabbits during the annual surveys for the Biodiversity Monitoring Program.

Review

This rabbit control plan will be reviewed annually to:

- report on the efficacy of control actions,
- calculate the cost of control actions,
- identify any new and improved control options available,
- identify any non-target or indirect impacts; and,
- improve the implementation of control actions.

Appendix C: Pest plant control program

Under to the *Biosecurity Act 2015* (NSW) pest plants are any species (other than native species) that present a biosecurity threat. A pest means a plant or animal (other than a human) that has an adverse effect on, or is suspected of having an adverse effect on, the environment, the economy, or the community because it has the potential to:

- (a) out-compete other organisms for resources, including food, water, nutrients, habitat, and sunlight, or
- (b) prey or feed on other organisms, or
- (c) transmit disease to other organisms, or
- (d) cause harm to other organisms through its toxicity, or
- (e) otherwise reduce the productivity of agricultural systems or the value of agricultural products, or
- (f) damage infrastructure, or
- (g) reduce the amenity or aesthetic value of premises, or
- (h) harm or reduce biodiversity.

Pest plants have been previously recorded on the Site and require ongoing management.

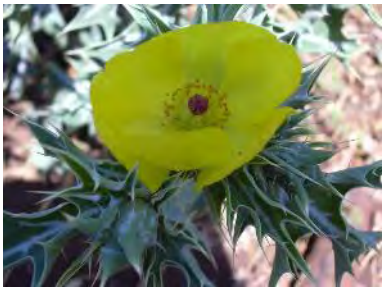
The proponent will maintain a contemporaneous spatial record of weed infestations recorded across the Site. Weed infestations will be managed according to best practice. Infestations will be monitored following treatment to ensure successful management.

Pest plant species should be identified and managed in accordance with the information provided on the NSW Weed Wise website (<https://weeds.dpi.nsw.gov.au/>). The following table provides a summary of the priority pest plant species to be managed on the Site.

Pest plant species	Identification	Control objectives
African boxthorn <u><i>Lycium ferocissimum</i></u>		African boxthorn berries, leaves, stems, and roots are toxic to humans. Seeds can germinate at any time of the year if there is adequate moisture and warmth. Seed is mainly spread by animals. Birds and foxes eat the fruit and spread the seed and plants are often found beneath bird perches such as trees, poles and powerlines. Seeds can also be spread in contaminated mud or agricultural produce. Identify and map existing infestations. Reduce the area of occupancy of existing infestations. Eliminate new infestations before they become established.

Pest plant species	Identification	Control objectives
Bathurst burr <i>Xanthium spinosum</i>		Bathurst burr is amongst the most common and economically serious weeds in Australian agriculture. Identify and map existing infestations. Reduce the area of occupancy of existing infestations. Eliminate new infestations before they become established.
Bridal creeper <i>Asparagus asparagoides</i>		Seed dispersed by birds has helped spread the weed along roadsides and into native vegetation patches further afield. Rabbits and foxes also eat fruit and disperse seeds. The plant can spread as the root system slowly expands in area. Movement of soil containing roots (e.g., by grading) can spread plants further. Implement biosecurity measures for vehicles and plant entering the site. Eliminate new infestations before they become established.
Coolatai grass <i>Hyparrhenia hirta</i>		Seed sheds quickly on maturity. The hairy, awned seeds readily adhere to the hair and wool of animals, clothing and is easily caught on and in vehicles. Implement biosecurity measures for vehicles and plant entering the site. Eliminate new infestations before they become established.
Common thornapple <i>Datura stramonium</i>		The whole plant is poisonous to people, pets, and livestock – it can cause serious illness or death. Touching the plant can cause dermatitis, nausea, and headaches in some people. Common thornapple spreads by seed. Each plant produces up to 30 000 seeds which can live in the soil for up to 40 years. Disturbing the soil encourages seeds to germinate.

Pest plant species	Identification	Control objectives
		Implement biosecurity measures for vehicles and plant entering the site. Eliminate new infestations before they become established.
Fleabane Conyza spp.		Fleabane is a major weed of dryland cropping in many parts of NSW. It has been confirmed as glyphosate resistant. An integrated weed management approach is required. Identify and map existing infestations. Reduce the area of occupancy of existing infestations. Eliminate new infestations before they become established.
Harrisia cactus Harrisia spp.		Each fruit produces 400 - 1000 seeds. Birds eat the fleshy fruit and spread the seeds in their droppings. Plants can regrow from stems fragments and root tubers. Wild pigs can spread the tubers. The stems can spread by sticking to animals, people, vehicles and machinery. Implement biosecurity measures for vehicles and plant entering the site. Eliminate new infestations before they become established.
Mesquite Prosopis spp		Mesquite reproduces by seed which is dispersed when livestock feed on seed pods (seeds pass through the digestive tract and remain viable), and when pods and seeds move in flood waters. Native and feral animals also assist in spreading mesquite by eating the sugar- and protein-rich seed pods. Implement the pest animal control plan (especially goats). Eliminate new infestations before they become established.

Pest plant species	Identification	Control objectives
Mexican poppy <i>Argemone ochroleuca</i>		Mexican poppy is poisonous to stock and humans. Mexican poppy can grow in a wide variety of climates from semiarid to wetter subtropical climates. It tolerates a wide variety of soil types and can grow well in soils with low nutrient levels. Seeds can be spread in water, mud, fodder, and grain, and on machinery. Implement biosecurity measures for vehicles and plant entering the site. Eliminate new infestations before they become established.
Mother of millions <i>Bryophyllum</i> spp.		Mother of millions is toxic to humans and other animals. The common name 'mother of millions' is based on the plant's ability to reproduce vegetatively in large numbers. Each plant produces small plantlets along the edges of its leaves which detach and form new plants. Implement biosecurity measures for vehicles and plant entering the site. Eliminate new infestations before they become established.
Noogoora burr <i>Xanthium occidentale</i>		Plants are commonly found in riparian areas, along roadsides, in wasteland and in pastures or cultivated areas that are low lying or subject to periodic flooding. Identify and map existing infestations. Reduce the area of occupancy of existing infestations. Eliminate new infestations before they become established.

Pest plant species	Identification	Control objectives
Onion weed <i>Asphodelus fistulosus</i>		Onion weed produces abundant fertile seeds that can germinate most of the year, and this makes it difficult to control. Hardy weed, ignored by stock. Establishes in disturbed situations, favouring alkaline sandy soils. Now widespread and common from coast to arid inland. Weed of cereal crops and a major threat to arid rangelands. Implement biosecurity measures for vehicles and plant entering the site. Eliminate new infestations before they become established.
Parthenium weed <i>Parthenium hysterophorus</i>		Parthenium weed can cause respiratory problems and severe dermatitis. Never touch the plant with bare hands. Use a dust mask if working near the weed. Parthenium weed spreads by seeds. Seeds close to the soil surface will germinate readily. Buried seeds can remain dormant for many years. Implement biosecurity measures for vehicles and plant entering the site. Eliminate new infestations before they become established.
Paterson's curse <i>Echium plantagineum</i>		Paterson's curse reproduces by seed. It is commonly spread via contaminated hay and grain, livestock droppings and machinery. Implement biosecurity measures for vehicles and plant entering the site. Eliminate new infestations before they become established.

Pest plant species	Identification	Control objectives
Peppercorn <i>Schinus spp.</i>		Peppercorn is widely grown as a garden and street tree. Seeds are spread by animals, it also spreads from suckers. They can provide habitat for native birds, but are environmental weeds that compete with native plants. Identify and map existing infestations. Reduce the area of occupancy of existing infestations. Eliminate new infestations before they become established.
Prickly pears <i>Cylindropuntia</i> spp.		Many of the species have easily detachable segments which aids their ability to spread. Identify and map existing infestations. Reduce the area of occupancy of existing infestations. Eliminate new infestations before they become established.
Prickly pears <i>Opuntia</i> spp.		Many of the species have easily detachable segments which aids their ability to spread. Identify and map existing infestations. Reduce the area of occupancy of existing infestations. Eliminate new infestations before they become established.
Saffron Thistle <i>Carthamus lanatus</i>		It spreads by seed only and is often spread as a contaminate of grain, hay or wool and by the movement of stock or farm vehicles. Identify and map existing infestations. Reduce the area of occupancy of existing infestations. Eliminate new infestations before they become established.

Pest plant species	Identification	Control objectives
Silver-leaf nightshade <u>Solanum elaeagnifolium</u>		Silverleaf nightshade contains toxic alkaloids. These are most concentrated in ripe fruit. Birds and livestock eat the fruit and spread the seeds. Cultivation breaks roots and machinery spreads them to new areas. Silverleaf nightshade can grow from root fragments as small as 1 cm. All parts of the root system can form shoot buds. If kept damp, root pieces can remain viable in the soil for up to 15 months. Identify and map existing infestations. Reduce the area of occupancy of existing infestations. Eliminate new infestations before they become established.

Appendix D: Property Vegetation Plan (TGO Offsets)

BIODIVERSITY MANAGEMENT PLAN
Revision 7 November 2020

TOMINGLEY GOLD OPERATIONS LTD
Tomingley Gold Operations



**Local Land
Services**

Local Land Services

Conservation

PROPERTY VEGETATION PLAN

Native Vegetation Act 2003

TOMINGLEY GOLD OPERATIONS

Tomingley West Road
TOMINGLEY NSW 2869

This Property Vegetation Plan applies to the land described in Schedule 1, as shown on Map 7 in Schedule 4 of this agreement.

The Landholder is authorised to undertake the activities set out in Schedule 2 and agrees to carry out the management actions and management action details set out in Schedule 2. The Landholder agrees to comply with the requirements of Schedule 3.

Notes:

1. The Director-General of Department of Premier and Cabinet (or delegate) will notify the Registrar-General once all landholders and parties with a prescribed interest have consented to the registration of this PVP. Once notified by the Director-General, the Registrar-General is required to register this PVP. This PVP will then be binding on all current and future landholders.
2. This Plan does not exempt the landholder from any Council clearing consent requirements.
3. In order to carry out the works under this PVP, the Landholder may be required to obtain other approvals from other government agencies.

Executed by Tomingley Gold Operations Pty Ltd ACN 149 040 371 in accordance with section 127 of the *Corporations Act 2001* (Commonwealth) by:

David Ian Chalmers

Director – Tomingley Gold Operations Pty Ltd

Signature

21/03/15

Date

Karen Elizabeth Vera Brown

Company Secretary – Tomingley Gold Operations Pty Ltd

Signature

31/3/15

Date

General Manager of Central West Local Land Services

Delegate of the Minister administering the *Native Vegetation Act 2003*

Signature

16/04/2015

Date

LLS File Ref: CW01825

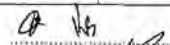
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Page 1 of 10

67 | Page

SCHEDULE ONE — DESCRIPTION OF LAND TO WHICH THIS PVP APPLIES

Lot	DP	LGA	Parish	County
104	755110	NARROMINE	GUNDONG	NARROMINE
32	755110	NARROMINE	GUNDONG	NARROMINE
36	755110	NARROMINE	GUNDONG	NARROMINE
105	755110	NARROMINE	GUNDONG	NARROMINE
112	755110	NARROMINE	GUNDONG	NARROMINE
122	755110	NARROMINE	GUNDONG	NARROMINE
1	254193	NARROMINE	GUNDONG	NARROMINE
185	43458	NARROMINE	GUNDONG	NARROMINE
73	755110	NARROMINE	GUNDONG	NARROMINE
74	755110	NARROMINE	GUNDONG	NARROMINE
81	755110	NARROMINE	GUNDONG	NARROMINE
111	755110	NARROMINE	GUNDONG	NARROMINE
30	755110	NARROMINE	GUNDONG	NARROMINE
23	755110	NARROMINE	GUNDONG	NARROMINE
24	755110	NARROMINE	GUNDONG	NARROMINE
25	755110	NARROMINE	GUNDONG	NARROMINE
26	755110	NARROMINE	GUNDONG	NARROMINE
29	755110	NARROMINE	GUNDONG	NARROMINE
31	755110	NARROMINE	GUNDONG	NARROMINE
35	755110	NARROMINE	GUNDONG	NARROMINE
93	755110	NARROMINE	GUNDONG	NARROMINE
92	755110	NARROMINE	GUNDONG	NARROMINE
90	755110	NARROMINE	GUNDONG	NARROMINE


 Initials

Page 2 of 10

Lot	DP	LGA	Parish	County
37	755110	NARROMINE	GUNDONG	NARROMINE
38	755110	NARROMINE	GUNDONG	NARROMINE
39	755110	NARROMINE	GUNDONG	NARROMINE
99	755110	NARROMINE	GUNDONG	NARROMINE
2	254193	NARROMINE	GUNDONG	NARROMINE
3	1151198	NARROMINE	GUNDONG	NARROMINE
2	1151198	NARROMINE	GUNDONG	NARROMINE
101	1191228	NARROMINE	GUNDONG	NARROMINE

16 8
 Initials

Page 3 of 10

SCHEDULE TWO — AUTHORISED ACTIVITIES AND MANAGEMENT ACTIONS

MANAGEMENT ACTIONS FOR CONSERVATION PVPS

1. The management actions and management action details are to be continued for, or completed within, the duration specified in the column 'Duration of Management Action'.
2. The management actions and management action details set out below must be undertaken in the specified map unit as identified in Schedule 4.

Map Number (as per Schedule 4)	Map Units	Management Action	Duration of Management Action	Management Action Details
1	1a, 2a, 3a, 4, 5	Supplementary planting	In perpetuity	Where remnant vegetation is present and in low condition (see Appendix A) and natural regeneration is not occurring, the landholder must undertake supplementary planting within 24 months of the commencement of this PVP. Supplementary planting must use indigenous trees, shrubs and groundcover species forming each of the following Vegetation communities: • Inland Grey Box - Poplar Box - White Cypress Pine tall woodland on red loams (Benson 76) in Map Unit 1a. • River Red gum riverine woodland forest (Benson 78) in Map Unit 2a. • Fuzzy Box - Inland Grey Box on alluvial brown loam soils (Benson 201) in Map Unit 3a. • Poplar Box - Belah Woodland on Clay (Benson 56) in Map Unit 4. • Belah - Black Oak - Western Rosewood - Wilga woodland (Benson 57) in Map Unit 5.
	1b, 2b, 3b	Revegetation	In perpetuity	The landholder must establish indigenous trees, shrubs and groundcover species which form the vegetation communities defined below within 24 months of the commencement of this PVP. • 28.8 ha of Inland Grey Box - Poplar Box - White Cypress Pine tall woodland on red loams (Benson 76) in Map Unit 1b. • 9.9 ha of River Red gum riverine woodland forest (Benson 78) in Map Unit 2b. • 27 ha Fuzzy Box - Inland Grey Box on alluvial brown loam soils (Benson 201) in Map Unit 3b.
	1a, 1b, 2a, 2b, 3a, 4, 5	Grazing exclusion	In perpetuity	The landholder is to exclude all livestock for a minimum of 10 years to prevent damage to revegetation and native vegetation regeneration. After 10 years of grazing exclusion the landholder may undertake strategic grazing in map Units 1a, 1b, 2a, 2b, 3a, 4 and 5. Grazing must allow at least six months between each grazing event and must not exceed a total of 14 days per calendar year.

H. O.
Initials

Page 4 of 10

70 | Page

Map Number (as per Schedule 4)	Map Units	Management Action	Duration of Management Action	Management Action Details
1	3a	Strategic grazing	In perpetuity	The landholder may undertake strategic grazing in map Unit 3a at any time for the purpose of decreasing fuel loads to reduce fire risk to the neighboring residence. Grazing must allow at least six months between each grazing event and must not exceed a total of 14 days per calendar year.
	1a, 1b, 2a, 2b, 3a, 3b, 4, 5	Retain regrowth	In perpetuity	The landholder must retain all native vegetation regrowth and/or natural regeneration of native plant species in Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5. All regrowth or natural regeneration of native vegetation in Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 is classified as 'Protected Regrowth' under the Native Vegetation Act 2003. Non-native vegetation must not be planted or sown in Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 at any time.
	1a, 1b, 2a, 2b, 3a, 3b, 4, 5	Clearing Not permitted Permitted Routine Agricultural Management Activities (RAMA)	In perpetuity	The clearing of native vegetation, whether remnant or regrowth, is not permitted in Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 at any time unless otherwise stated in this PVP. The Landholder must not clear native vegetation in the area identified as Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 for routine agricultural management activities, except when the landholder is clearing native vegetation for the following Routine Agricultural Management Activities: • The operation and maintenance only of permanent fences only (as permitted by s. 22 and s. 11(1)(a) Native Vegetation Act 2003 and cl 27 Native Vegetation Regulation 2013); • The removal of noxious weeds under the Noxious Weeds Act 1993 (as permitted by s. 22 and s. 11(1)(b) Native Vegetation Act 2003); • The control of pests under the Local Land Services Act 2013 (as permitted by s. 22 and s. 11(1)(c) Native Vegetation Act 2003); • The clearing of feral native plant species (as permitted by s. 22 Native Vegetation Act 2003 and cl. 37 Native Vegetation Regulation 2013); • The maintenance of public utilities (as permitted by s.22 and s.11(1)(h) Native Vegetation Act 2003 and cl. 37 Native Vegetation Regulation 2013); • Any activity reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property (as permitted by s. 22 and s. 11(1)(i) Native Vegetation Act 2003). The clearing of any vegetation in contravention of this clause is excluded from being an activity permitted to be carried out under Part 3 Division 3 s.22 of the Native Vegetation Act 2003.

H. O.
Initials

Page 5 of 10

71 | Page

Map Number (as per Schedule 4)	Map Units	Management Action	Duration of Management Action	Management Action Details
1	1a, 1b, 2a, 2b, 3a, 3b, 4, 5	Control of feral herbivores	Term of project	The landholder must control all pest vertebrates such as cats, feral dogs and foxes from Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5, (as outlined in the Tomingley Gold Project, Biodiversity Management Plan) at all times.
		Salvaged local timbers	In perpetuity	Salvaged local timbers must be primarily installed in Map Units 1a and 2a along Gundong Creek to rehabilitate the riparian corridor to current Best Management Practices.
		Weed control	In perpetuity	The landholder must control non-native plant species in Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 to encourage the establishment of native groundcover species. The landholder must not use herbicides within Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 except to spot spray non-native weed species.
		Retain dead timber	In perpetuity	All dead timber either standing or fallen must be retained in Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 in at all times.
		Retention of naturally occurring rocks	In perpetuity	Naturally occurring rocks must not be removed from Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 at any time.
		Exclude Fertilisers	In perpetuity	Fertilisers must not be applied within Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 at any time.
		Fire Management for Conservation	Term of project	Best Management Practices for fire management for the vegetation types and threatened species present on the site within Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 must be implemented during the term of the project. Best management practices must be determined in consultation with the NSW Rural Fire Service (as outlined in the Tomingley Gold Project, Biodiversity Management Plan). The use of fire within Map Units 1a, 1b, 2a, 2b, 3a, 3b, 4 and 5 must be in accordance with the conditions of a Bush Fire Environmental Assessment Code approval issued by the NSW Rural Fire Service.
		Monitor established vegetation points	Term of project	The monitoring of vegetation must follow the Office of Environment and Heritage publication, "Model for Practical Partnerships in Resource Condition, Monitoring Evaluation and reporting 2011", (as outlined in the Tomingley Gold Project, Biodiversity Management Plan). The evaluation and reporting from the monitoring data must lead to constant improvement of the vegetation condition.

Initials 

Page 6 of 10

72 | Page

Map Number (as per Schedule 4)	Map Units	Management Action	Duration of Management Action	Management Action Details
1	1a, 1b, 2a, 2b, 3a, 3b, 4, 5	Management of human disturbance	Term of project	The landholder must take all reasonable measures to exclude dumping, fire wood collection; and unauthorised human activities at all times. The landholder must install signage clearly stating the land use of offset area as biodiversity conservation at each separate offset area. The erection of signage described in the Management Action titled "Management of human activities" under Management Action Details (a) in this Schedule must be commenced within twelve (12) months of the commencement of clearing.

Initials 

Page 7 of 10

73 | Page

SCHEDULE THREE - STANDARD CONDITIONS

Commencement

1. This PVP will commence from the date at which it is signed by the Minister administering the *Native Vegetation Act 2003* (or delegate).

Words and phrases used

2. In this Schedule:

"LLS" means Local Land Services constituted under section B of the *Local Land Services Act 2013*;

"Central West Local Land Services" means Local Land Services in the Central West region;

"Landholder" means the landholder who is a party to this PVP and once this PVP is registered all future landholders;

"the works under this PVP" means the clearing, the management actions, the mitigating actions and all other works that the Landholder is authorised or required to take under this PVP;

"the Land" means the land to which this PVP applies;

"OEH" means the Office of Environment and Heritage within the Department of Premier and Cabinet and includes its successor departments or agencies; and

"PVP" means this property vegetation plan.

Monitoring and auditing

3. The carrying out of any works under this PVP may be subject to auditing by members of staff of LLS or officers of OEH who are authorised officers under the *Native Vegetation Act 2003*, as set out in sections 34 and 35.
4. Subject to reasonable notice, the Landholder will allow authorised officers of LLS or OEH access to the Land and allow those officers to do all things reasonably necessary for the purpose of monitoring or auditing compliance with this PVP.
5. Clauses 3 and 4 do not affect the powers of authorised officers of LLS, OEH or other government agencies to carry out investigations under the *Native Vegetation Act 2003*.

Registration of PVP on Title

6. For the purpose of sections 31(1) and 31(2) of the *Native Vegetation Act 2003*, the Landholder consents to the registration of this PVP in accordance with section 31 of the *Native Vegetation Act 2003*.

Dispute resolution

7. The Landholder and Minister (or delegate) agrees to attempt to resolve any dispute in relation to this PVP by negotiation in the first instance. Such negotiation may involve agreeing on a variation to the PVP. However, this clause does not apply to a dispute relating to a possible breach of the *Native Vegetation Act 2003*.
8. Where appropriate, if negotiations are not successful, the Minister (or delegate) agrees to provide a written notice to the Landholder setting out the nature of any contravention and requesting the Landholder to take the steps specified in that notice, in the time specified in that notice, to rectify that contravention. This clause does not apply to a possible breach of the *Native Vegetation Act 2003*.
9. The Landholder agrees to comply with that notice in the time specified in the notice. Failure to comply with that notice is a breach of this plan. If the Landholder does not comply with the notice, the Minister (or delegate) may consider terminating this plan, in accordance with the procedure set out in section 30 of the *Native Vegetation Act 2003*. LLS or OEH may also take other action under that Act.
10. The Landholder also agrees to provide access to the property to officers of LLS and OEH.

Note: The procedure for varying or terminating a PVP is set out in section 30 of the *Native Vegetation Act 2003* and clause 11 of the *Native Vegetation Regulation 2013*.

Initials 

Page 8 of 10

Appendix E: Fauna handling procedure

Purpose

This procedure explains the actions to be undertaken in the event fauna (including injured, shocked, juvenile, or other animal) are discovered on the project site that require handling or rescue during vegetation and soil clearance and ongoing construction activities.

Universal considerations

Some animals require particular handling (e.g. venomous reptiles, raptors) and should only be handled by appropriately qualified, experienced personnel.

- If handling bats, the handler must be vaccinated against the Australian Bat Lyssavirus (ABL) which is a form of rabies.
- Any frog handling would be undertaken in accordance with the NSW Government's *Hygiene Guidelines* (DPIE, 2020).
- Any fauna translocation would be undertaken in accordance with the NSW Government's *Translocation Operational Policy 2019* (OEH, 2019).
- If the species is nocturnal, release will normally be carried out at dusk.
- Non-native fauna will not be translocated and will be euthanised.

Vegetation clearing procedure

When undertaking vegetation removal in accordance with the project approval, a suitably qualified and experienced personnel (observer) will be present on the Site; and they will be responsible for fauna handling / rescue. They will adhere to the following procedure:

Pre-clearing survey: The observer will assess the vegetation to be removed, ahead of machinery. Habitat trees, or other significant fauna habitat features will be identified and clearly marked (i.e. with high-visibility flagging tape) in the field. These features will be avoided during stage one and will be removed in a controlled manner during Stage 2 clearing.

Stage 1 clearing – under-scrubbing and non-habitat tree removal: The observer will follow machinery (within 1 hour of clearing in that area) any injured or displaced fauna encountered during this stage will be identified and triaged in the field:

Critically injured fauna: will be captured, stored appropriately, and referred to the local wildlife veterinary service for treatment / euthanasia.

In the event the rescue service and/or local veterinary service cannot be reached in a timely manner, the most appropriate euthanasia will be administered by a suitably qualified individual following best practice advice (i.e. cervical dislocation for small vertebrates).

Dislocated / disoriented / shocked fauna: will be translocated to suitable habitat in the 'Green Zone', far away from planned clearing activities. Fauna will only be translocated if they are assessed to be otherwise healthy and capable of recovery.

Apparently healthy fauna: will be allowed to leave the area without further intervention.

Stage 2 clearing – controlled habitat removal: The observer will be present (at a safe distance) for the removal of identified habitat trees / significant habitat features such as hollow logs or stags. Following the controlled felling of the habitat feature, they will be inspected for injured / dislocated fauna:

Critically injured fauna: will be captured, stored appropriately, and referred to the local wildlife veterinary service for treatment / euthanasia.

In the event the rescue service and/or local veterinary service cannot be reached in a timely manner, the most appropriate euthanasia will be administered by a suitably qualified individual following best practice advice (i.e. cervical dislocation for small vertebrates).

Dislocated / disoriented / shocked fauna: will be translocated to suitable habitat in vegetation away from planned clearing activities. Fauna will only be translocated if they are assessed to be otherwise healthy and capable of recovery.

Apparently healthy fauna: will be allowed to leave the area without further intervention.

Intact habitat features will be salvaged and relocated to a suitable vegetation zone within retained native vegetation on the Site.

Incidental encounters

In the event wildlife are injured on the project site during operational activities that have harmed the animal and / or pose risk to site personnel, the following steps shall be undertaken:

- Personnel will avoid handling wildlife where possible. If fauna is required to be moved on site at short notice (such as snakes), only suitably trained or qualified individuals are able to do so.
- In case of injured fauna, a nominated rescue agency or veterinarian is able to be contacted to provide advice on what actions to take, see contact below.

Agency	Contact number
WIRES	1300 094 737

If the animal is uninjured, it will be allowed to leave the area without further intervention.

Appendix F: Threatened fauna key breeding period

⊖ = indicates species nests near ground / low shrubs

⊙ = indicates species nest in trees / hollows

≈ = indicates species breeds in water

Species	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<i>Crinia sloanei</i> Sloane's Froglet ≈												
<i>Chalinolobus picatus</i> Little Pied Bat ⊙												
<i>Nyctophilus corbeni</i> Corben's Long-eared Bat ⊙												
<i>Saccolaimus flaviventris</i> ⊖ and ⊙ Yellow-bellied Sheath-tail-bat												
<i>Artamus cyanopterus cyanopterus</i> Dusky Woodswallow ⊙												
<i>Calyptorhynchus lathami</i> Glossy Black-Cockatoo ⊙												
<i>Circus assimilis</i> Spotted Harrier ⊙												
<i>Climacteris picumnus victoriae</i> Brown Treecreeper ⊙												
<i>Daphoenositta chrysoptera</i> Varied Sittella ⊙												
<i>Epthianura albifrons</i> White-fronted Chat ⊖												
<i>Falco hypoleucos</i> Grey Falcon ⊙												

Species	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<i>Falco subniger</i> Black Falcon ☉												
<i>Grantiella picta</i> Painted Honeyeater ☉												
<i>Grus rubicunda</i> Brolga ☉ and ≈												
<i>Hieraaetus morphnoides</i> Little Eagle ☉												
<i>Hirundapus caudacutus</i> White-throated Needletail	(breeds in Asia)											
<i>Lophoictinia isura</i> Square-tailed Kite ☉												
<i>Melanodryas cucullata cucullate</i> Hooded Robin ☉												
<i>Neophema pulchella</i> Turquoise Parrot ☉												
<i>Nettapus coromandelianus</i> Cotton Pygmy-Goose ☉												
<i>Ninox connivens</i> Barking Owl ☉												
<i>Pachycephala inornate</i> Gilbert's Whistler ☉												
<i>Polytelis swainsonii</i> Superb Parrot ☉												

Species	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<i>Pomatostomus temporalis temporalis</i> Grey-crowned Babbler ☹ and ☺												
<i>Stagonopleura guttata</i> Diamond Firetail ☹ and ☺												
<i>Tyto novaehollandiae</i> Masked Owl ☺												
<i>Sminthopsis macroura</i> Stripe-faced Dunnart ☹												
<i>Hoplocephalus bitorquatus</i> Pale-headed Snake ☺												