BIODIVERSITY MANAGEMENT PLAN

HERA MINE AND FEDERATION MINE

15/05/2025

aurelia METALS

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Version	Date	Description	Author
V0.1	15/12/2023	Final for BCD submission	AREA and IEMA
V0.2	08/05/2024	Review following consultation	AREA and IEMA
V0.3	21/10/2024	Amendment following DPHI information request	IEMA
V1.0	14/05/2025	Update to reflect changes from consent Modification 2	IEMA and Aurelia Metals

1. INTRODUCTION

1.1. Background

Hera Resources Pty Ltd (Hera Resources), a wholly owned subsidiary of Aurelia Metals Limited (Aurelia), owns and maintains Hera Mine, an underground metalliferous mine, approximately 100km southeast of Cobar and 4km south of Nymagee in the central west of New South Wales (NSW). Hera Resources operated Hera Mine from 2014 until it entered care and maintenance in early 2023.

Hera Mine is a State Significant Development (SSD) and commenced operations in 2012 under the former *Environmental Planning and Assessment Act 1979* (EP&A Act) Part 3A Major Project Approval development consent MP10_0191, which has been modified six times.

The Federation Project (the Project) is an underground metalliferous mine located in central-western NSW, approximately 15 kilometres (km) south of the Nymagee township and 10km south of Hera Mine. High grade mineral deposits were discovered at the Federation Mine site in 2019 with subsequent drilling operations identifying a substantial gold-lead-zinc-copper-silver mineral resource.

Following the mineral discovery, an Exploration Decline Program was approved for a bulk sample and supporting infrastructure at the Federation Site in August 2021 by the Resources Regulator under Part 5 of the EP&A Act and section 23A(4) of the *Mining Act 1992*.

Development consent ('the consent') for the Project (SSD 24319456) was granted on 2 March 2023 and has since been modified twice. Modification 1 was approved on 27 November 2023 regarding changes to biodiversity offset staging.

Modification 2 was approved on 27 March 2025 to allow options for:

- haulage between 7am and 10pm of up to 600ktpa of ore to Peak Gold Mine (PMG) for processing, throughout the life of mine;
- reclaim of tailings from the existing Hera Mine Tailings Storage Facility (TSF) for paste backfill at Federation Mine; and
- minor rearrangement of infrastructure at Federation Mine within the approved disturbance area, inclusive of new water tank.

The consent required that 'within 12 months of the date of physical commencement of development under this consent, or other timeframe agreed by the Planning Secretary, the Applicant must surrender development consent MP10_0191 for the Hera Gold Mine. The Hera Gold Mine consent was surrendered on 17 March 2025. The Project's consent includes the amalgamation of Hera Mine's development consent conditions with the consent conditions for the Project into a single consolidated consent for both Hera Mine and Federation Mine as well as connecting infrastructure, herein referred to as the Site. Within the Site, the consent authorises activities within the 'approved disturbance area'.

Key infrastructure approved via the consent for the Site is outlined in **Table 1**.

Table 1: Key Site Infrastructure

Project Element	Description
Mining Method	Underground mining via longitudinal retreat long hole stopping method.
Management of Waste Rock	During operations, waste rock is stored on designated pads or utilised for backfilling underground stopes. Post mining, potentially acid forming waste rock will be returned underground, and non-acid forming waste rock will be returned underground, used for backfilling the box cut or used for other rehabilitation purposes.
Processing Plant	The existing processing plant includes a Run of Mine (RoM) pad, Waste Rock Emplacement (WRE), crushing, grinding and screening operations, gravity separation, and flotation circuits capable of processing up to 505 ktpa of ore. The new processing plant is anticipated to be commissioned early to mid-2024 at Hera Mine capable of processing 750 ktpa of ore once at full operational capacity. Key elements of the proposed processing plant include: • Three stages of crushing followed by ball milling with hydrocyclone classification; • Gravity separation to recover gold from the milling circuit recirculating load, followed by cyanide leaching of the gravity concentrate; • Sequential flotation to produce separate copper, lead and zinc concentrates; and • Concentrate thickening and filtration. Tailings thickening and filtration, and disposal by both underground paste backfill at Federation Mine and surface storage in the approved Hera Mine TSF.
Management of Tailings	Tailings will be either placed into the approved Tailings Storage Facility at Hera Mine or returned to Federation Mine for placement underground as paste backfill. The preferred backfill method at Federation Mine is cemented paste fill using tailings. The tailings paste plant will be located adjacent to the stoping footprint to allow gravity reticulation of tailings paste fill down dedicated boreholes and laterally through an underground paste distribution system. The shotcrete batch plant will be co-located with the tailings paste fill plant. This plant will provide an ongoing supply of shotcrete for ground support requirements underground and concrete for miscellaneous construction works.
Power Generation	The preferred option for power generation at Federation Mine will be by a gas plant at Hera Mine with power transferred by overhead powerlines. A proposed solar farm to be constructed at Hera Mine will offset gas requirements. An option for a solar farm and gas generators at Federation Mine is also being considered if separate power generation is the preferred option in which case transmission lines will not be required. The Federation Mine will initially be powered by diesel generators while new power generation capacity is constructed.
General Infrastructure	Internal roads, ablutions block, administration buildings, workshop and stores, sewage treatment and treated effluent irrigation, diesel storage tanks, potable water treatment, waste rock storage, underground vents, sub station, paste plant, laydown area, topsoil stockpiles, ROM pad, box cut, magazines, haul roads, telecommunications tower, surface extraction areas, ventilation rises, access roads, heavy vehicle corridors, overhead transmission lines and concentrate stores.
Transport	Ore will be transported from Federation Mine to Hera Mine via Burthong Road and to Peak Mine via Priory Tank Road and Kidman Way. Tailings will be transported from Hera Mine to Federation Mine via Burthong Road. Concentrate will be transported via road from Hera Mine to Hermidale Siding with an average of approximately 12 vehicle trips per day at the peak of concentrate transport. At the peak of mining, concentrate, ore, and tailings transport is estimated to be an average of 61 vehicle trips (one-way movements) per day.

Project Element	Description
Water Management	The processing plants generate the majority of Site's water demand. Water will primarily be sourced from underground workings and pumped to the surface. A network of production bores will also be established which will supplement the existing production bores. The maximum groundwater extraction forecast by the site water balance model is 530 megalitres per year (ML/year), which is within the existing licenced volume of 543 ML/year. **Hera Mine** The water management system at the Hera Site includes the diversion of clean water runoff around upslope areas of the site, the collection of water from disturbed areas and the discharge of water to Box Creek. The key elements of the Hera water management system include: • Clean water runoff from undisturbed catchment areas within and upslope of the site. These flows may be diverted and discharged off site without treatment or licensing; • The dirty water management system which consists of a series of dirty water drains. Sediment Basin 1 and Sediment Basin 2 were used as dirty water storages during construction and have since been combined into a larger contaminated water storage which collects runoff from the processing plant area; and • Raw water system supplied from production bores around the site. The production bores transfer water to the Back Tank (located beside Back Dam). Water from the Back Tank is transferred to the Feed Water Tank. The House Dam receives surface water from the clean water catchment and the House Bore (production bore). **Federation Mine** A water management system will be implemented at the Federation Mine. Key elements include the diversion of clean water runoff around the mine, and the collection of water from disturbed areas and the underground. Dirty (sediment) water is captured in catch drains and collected in the sediment basin within the footprint of the Stormwater Retention Pond. Runoff from the PAF pads will drain to Lined Leach Ponds. Runoff from the box cut will report down the decline and be dewatered as part of the underground dewatering system to the Dewatering Pond. Water contained in the Lined Leach Ponds, Stormwater Retention Pond and Dewatering Pond will be recirculated for reuse within the Hera Mine water management system by the water pipeline between Federation Mine and Hera Mine.
Services Corridor	Linear infrastructure in the 23 m wide, 14.3 km long services corridor (see **Figure 2**) includes: • Electricity transmission lines (if required) • Water pipeline • Access track • Tailings pipeline and return water line (potentially) • Communication infrastructure (potentially).

Ore from Federation Mine will be trucked to the Peak Mine during the first four years of operations. Federation Mine is expected to produce up to 6.95 million tonnes of ore over a 12-to-14-year period.

The regional locality of Site is shown in **Figure 1** and a general site layout is in **Figure 2**. Detailed site layouts of Hera Mine and Federation Mine are shown in **Figure 3** and **Figure 4** respectively.

1.2. Purpose and Scope

This Biodiversity Management Plan (BioMP) is comprised of the following core components:

1. **Operational context** – **Sections 1** to **3** of this document set out the legal, administrative, operational, and environmental context of the BioMP,
2. **Management measures** – **Sections 4** and **5** outline specific actions to be taken to manage relevant environmental variables, in compliance with the requirements,
3. **Assurance framework** – **Sections 6** and **7** set out the key uncertainties and risks associated with implementing the BioMP, responses to these, and potential adaptations to changing circumstances; and,
4. **Governance framework** – **Sections 8** to **11** encompass 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 that it is continually updated to reflect adaptions and to incorporate improvements. The framework for controlling changes and revisions to this document can be found in **Section 11.**

1.2.1. Purpose

This BioMP has been prepared to comply with Condition B70 of SSD 23419456 to manage biodiversity outcomes on the Site. The following obligations related to biodiversity outcomes have been extracted from Conditions B68-B70 of SSD 23419456:

- Retire biodiversity credits in accordance with the Biodiversity Offsets Scheme of the BC Act,
- Minimise impacts within the approved disturbance areas (ADAs),
- Maximise the salvage of biodiversity resources for beneficial reuse,
- Protect biodiversity values outside of the ADAs,
- Control pest plants and animals across the Site; and,
- Control human access to vegetated or revegetated areas.

Details of the requirements, and where they have been addressed in this document are found in **Table 3**.

This BioMP forms part of the environmental management system of the Site. The strategic framework for environmental management of the Site is outlined in the Hera Mine and Federation Mine Environmental Management Strategy (EMS) document.

1.2.2. Scope

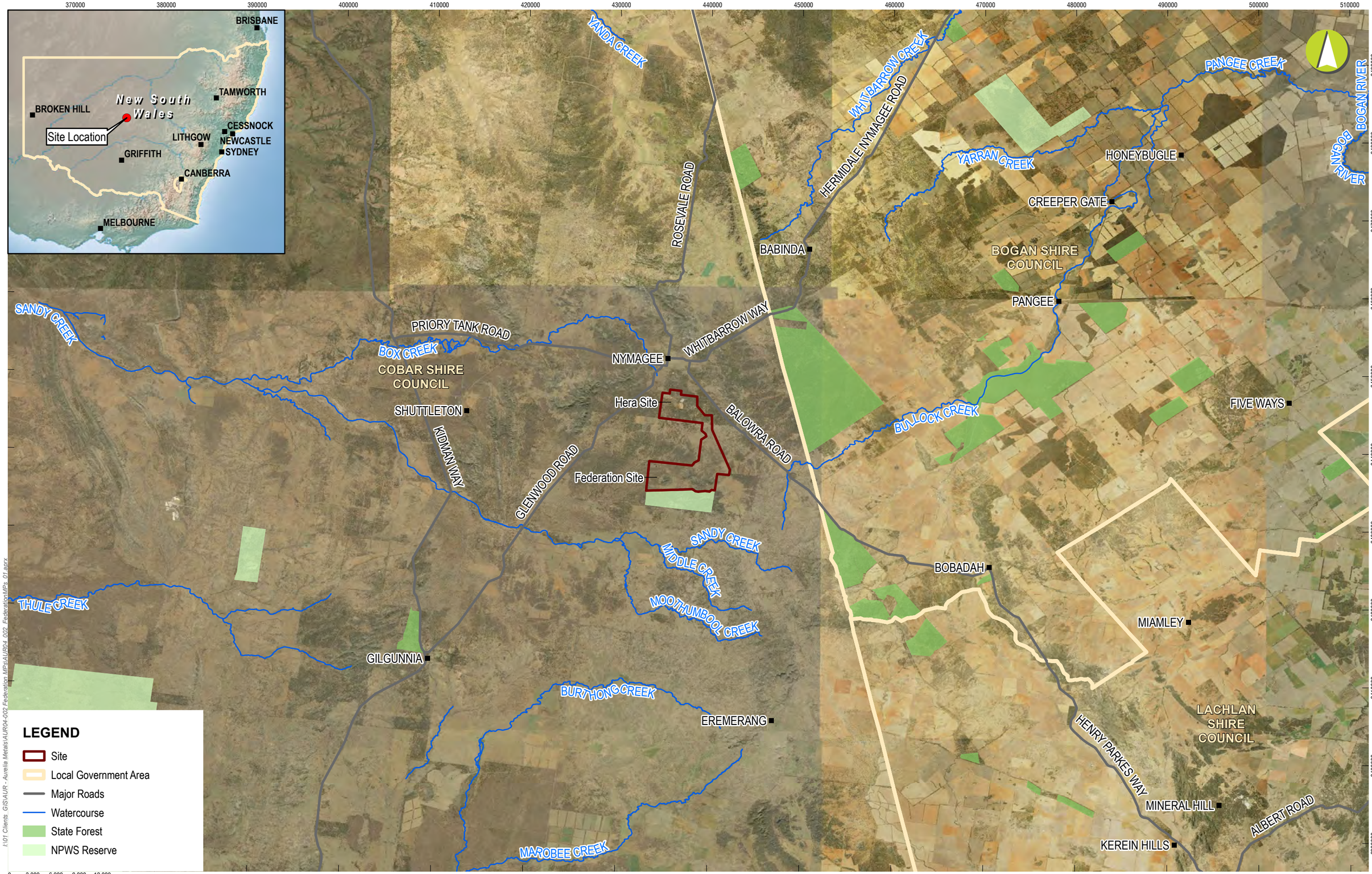
The scope of this BioMP includes the requirements set out in the consent, and any additional statutory obligations that the proponent has, to manage biodiversity on the Site.

1.2.3. Authorship

Condition B70 of SSD 23419456 requires the BioMP to be prepared by a suitably qualified and experienced person. The qualifications and experience of authors is provided in **Table 2.**

Table 2: Qualifications and Experience of Personnel Preparing the BioMP

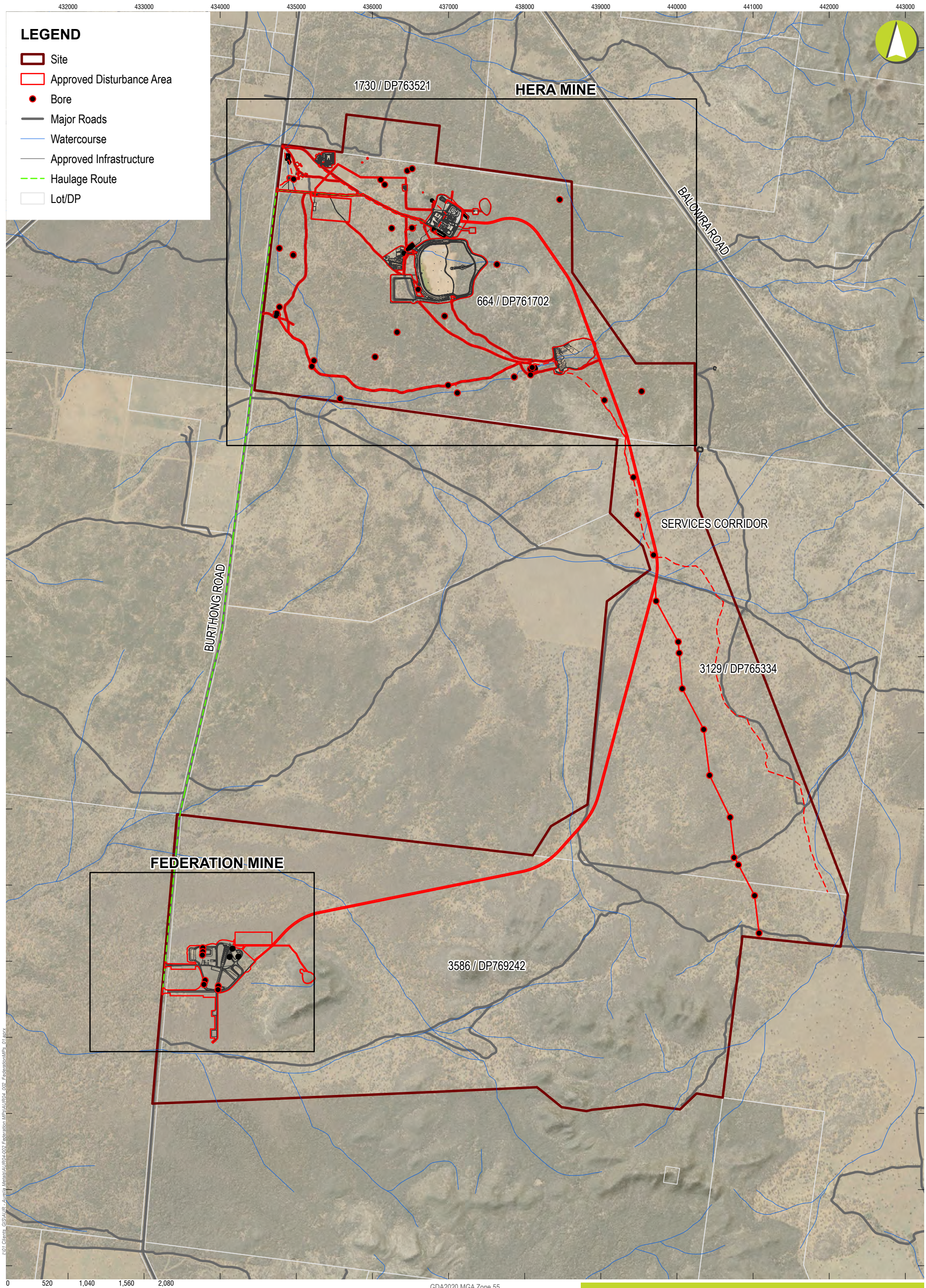
Author	Role	Qualifications
Rowan Murphy	Lead author	• B. Env. Sc. University of New England. • LLB. University of New England. • NSW Biodiversity Assessment Method Accredited Assessor: BAAS18152.
Addy Watson	Lead reviewer / Quality management	• Grad. Dip. Captive Vertebrate Management, Charles Sturt 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.



Aurelia Minerals - Federation MP

Regional Locality

FIGURE 1



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Aurelia Metals - SSD 24319456

Site

FIGURE 2

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Sheet Size : A3

433000 434000 435000 436000 437000 438000 439000 440000 441000

6448000 6447000 6446000 6445000 6444000 6443000

GLENWOOD ROAD

BURTHONG ROAD

EXISTING AND EXPANDED ACCOMMODATION VILLAGE

PROPOSED OVERHEAD TRANSMISSION LINE

MAIN SITE ENTRANCE

EXISTING OVERHEAD TRANSMISSION LINE

SWITCH GEAR

GENSETS

PROPOSED SOLAR FARM

WB5

EXISTING PROCESS PLANT

PROPOSED HV CORRIDOR

QUARRY LOCATION (MOD 6)

STOCKPILE AREA

NEW PROCESS PLANT

SERVICES CORRIDOR

WB10

TAILINGS AND CONCENTRATE SHED

WB13

WB14

SETTLING PONDS

SEDIMENT BASIN

RELOCATED MAGAZINE

APPROVED MINE SITE INFRASTRUCTURE

WATER MANAGEMENT DAM

TSF

WB16

WB20

WB12

WB27

EXTENDED PETE'S DAM

WB25

WB24

WB26

WB11

WB21

BACK DAM EAST

BACK DAM WEST

WB8

WB18

WB4

WB28

WB5

QUARRY LOCATION (MOD 6)

NEW PROCESS PLANT

PROPOSED HV CORRIDOR

STOCKPILE AREA

WB13

WB14

TAILINGS AND CONCENTRATE SHED

EXISTING PROCESS PLANT

SETTLING PONDS

SEDIMENT BASIN

APPROVED MINE SITE INFRASTRUCTURE

LEGEND

- Site
- Approved Disturbance Area
- Bore
- Major Roads
- Watercourse
- Contours
- Approved Infrastructure
- Haulage Route
- Existing Pipeline
- Proposed Processing Plant
- Service Corridor

0 190 380 570 760 m

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Aurelia Metals - SSD 24319456

Hera Mine

FIGURE 3

433000 433500 434000 434500 435000 435500

6437500

6437000

6436500

6436000

SERVICES CORRIDOR TO HERA MINE

RAW WATER TANK

PASTE PLANT AND SUBSTATION PAD

DEWATER POND

PROPOSED SOLAR FARM

WORKSHOP

TOPSOIL STOCKPILE

STORMWATER RETENTION POND

ACCESS ROAD

OFFICES AND ABLUTIONS

BURTHONG ROAD

TOPSOIL STOCKPILE

LAYDOWN

ACCESS ROAD

TOPSOIL STOCKPILE

PAF WASTE ROCK

CRUSHER PAD

SURFACE EXTRACTION AREA

LINED LEACH POND

ROM ORE STOCKPILE

HV HAUL ROAD

TOPSOIL STOCKPILE

PAF / NAF WASTE ROCK PAD

TOPSOIL STOCKPILE

LINED LEACH POND

MAGAZINE 1

MAGAZINE 2

LEGEND

- Site
- Approved Disturbance Area
- Bore
- Major Roads
- Watercourse
- Approved Infrastructure
- Haulage Route
- Stopping Footprint
- Service Corridor
- Federation Access Roads

0 60 120 180 240 m

Scale: 1:8,000

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Aurelia Metals - SSD 24319456

Federation Mine

FIGURE 4

2. LEGAL AND OTHER REQUIREMENTS

2.1. Consent Conditions

SSD 23419456 stipulates the required criteria that the construction and operational activities at the Site must comply with. Condition B70 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 3.**

Hera Resources will comply with the conditions of the consent (including all conditions listed in **Table 3**) as well as manage the Site in accordance with the EIS, all written directions of the Planning Secretary, and the Development Layout.

Table 3: Relevant SSD 23419456 Conditions

Condition No.	Condition	Where Addressed
APPLICATION OF EXISTING STRATEGIES, PLANS OR PROGRAMS		
A24	Prior to the approval of management plans under this consent, the Applicant must continue to implement any equivalent or similar management plan/s required under existing consents listed under condition A7, to the satisfaction of the Planning Secretary.	Noted
Biodiversity Credit Requirements		
B68	The Applicant must retire the biodiversity credits for Offset Stages 1a, 1b, 1c, 1d, 1e, 1f, 2a, 2b, 2c, 2d, 3, 4 and 5, as specified in Table 5 below, prior to commencing vegetation clearing in those stages. The retirement of credits must be carried out in accordance with the Biodiversity Offsets Scheme of the BC Act. **Table 5: Biodiversity Credit Requirements**	Section 4.1.1

Credit type	*Area (ha)*	*Offset liability*													
Stage		*1a*	*1b*	*1c*	*1d*	*1e*	*1f*	*2a*	*2b*	*2c*	*2d*	*3*	*4*	*5*	*Total*
PCT 103 - Poplar Box – Gum Coolabah - White Cypress Pine shrubby woodland mainly in the Cobar Peneplain Bioregion	37.88	232	0	32	65	422	35	274	216	0	0	163	40	6	1,485
PCT 103 (Open) - Poplar Box – Gum Coolabah - White Cypress Pine shrubby woodland mainly in the Cobar Peneplain Bioregion	0.47	0	0	0	0	0	0	7	0	0	0	0	0	0	7
PCT 104 - Gum Coolabah woodland on sedimentary substrates mainly in the Cobar Peneplain Bioregion	4.97	0	0	0	9	65	0	0	29	0	0	24	0	0	127
PCT 174 - Mallee - Gum Coolabah woodland on red earth flats of the eastern Cobar Peneplain Bioregion	24.68	210	76	19	25	161	37	0	0	209	75	63	37	12	924
PCT 176 - Green Mallee - White Cypress Pine very tall mallee woodland on gravel rises mainly in the Cobar Peneplain Bioregion	0.06	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PCT 180 - Grey Mallee - White Cypress Pine woodland on rocky hills of the eastern Cobar Peneplain Bioregion	2.35	0	0	0	0	0	0	0	0	0	0	0	0	54	54
PCT 258 - Gum Coolabah - Mugga Ironbark - White Cypress Pine woodland on granite low hills in the eastern Cobar Peneplain Bioregion and central NSW South Western Slopes Bioregion	0.70	0	0	0	2	14	0	0	0	0	0	5	0	0	21
Total	74.59	442	76	51	101	662	72	282	245	209	75	255	77	72	2,619

- *To identify the surface disturbance areas associated with Offset Stages 1 to 5, refer to Table 5 and Appendix 4*
- *The credits in Table 6 were calculated in accordance with Biodiversity Assessment Methodology (BAM) (DPIE, 2020).*
- *The available credit retirement options for the development include purchase and retirement of open market available biodiversity credits, payment into the Biodiversity Conservation Fund or establishment of a Biodiversity Stewardship Site.*

<table>
<tr><th>Condition No.</th><th>Condition</th><th>Where Addressed</th></tr>
<tr><td colspan="3">Biodiversity credits – carryover from Hera Mine offset requirements</td></tr>
<tr><td>B69</td><td>Within two years of commencing construction of the water management dam, unless the Secretary agrees otherwise, the Applicant must retire biodiversity credits of a number and class identified in Table 3B below. The retirement of credits must be carried out in consultation with CPHR and in accordance with the Biodiversity Offsets Scheme of the BC Act.
Table 3B: Biodiversity Credit Requirements for Water Management Dam
<table>
<tr><th>Credit type</th><th>Area (ha)</th><th>Offset liability</th></tr>
<tr><td>PCT 103 - Poplar Box – Gum Coolabah - White Cypress Pine shrubby woodland mainly in the Cobar Peneplain Bioregion</td><td>11.4</td><td>300</td></tr>
</table></td><td>Section 4.1.1</td></tr>
<tr><td colspan="3">Biodiversity Management Plan</td></tr>
<tr><td rowspan="6">B70</td><td>The Applicant must prepare a Biodiversity Management Plan for the development. This plan must:
(a) Be prepared by a suitably qualified and experienced person/s;</td><td>Section 1.2.3</td></tr>
<tr><td>(b) Be prepared in consultation with CPHR;</td><td>Section 2.4
Appendix A
Consultation</td></tr>
<tr><td>(c) Describe the short, medium, and long-term measures to be undertaken to manage the remnant vegetation and fauna habitat on the site;</td><td>Section 4.3</td></tr>
<tr><td>(d) Describe how biodiversity management would be integrated with similar measures within other management plans, including the Rehabilitation Management Strategy referred to in condition B86;</td><td>Section 4.2.3</td></tr>
<tr><td>(e) 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 translocation of threatened species as guided by the NSW Government’s Translocation Operational Policy 2019 (as amended from time to time); and
(iii) Maximise the salvage of resources, including tree hollows, vegetation and soil resources, for beneficial reuse, including fauna habitat enhancement;</td><td>Section 4.3.1</td></tr>
<tr><td>(f) Describe the measures to be implemented on the site to:
(i) Minimise impacts on fauna habitat resources such as hunting and foraging areas, habitat trees, fallen timber and hollow-bearing trees;
(ii) Protect vegetation and fauna habitat outside of the approved disturbance areas;
(iii) Manage the collection and propagation of seed from the local area;
(iv) Control weeds, including measures to avoid and mitigate the spread of noxious weeds;
(v) Control feral pests; and
(vi) Control access to vegetated or revegetated areas</td><td>Section 4.3.2</td></tr>
<tr><td>B71</td><td>The Applicant must not commence construction until the Biodiversity Management Plan has been prepared and a copy has been provided to the Planning Secretary.</td><td>Section 11</td></tr>
</table>

Condition No.	Condition	Where Addressed
B72	The Applicant must implement the Biodiversity Management Plan.	Section 9
Management Plan Requirements		
C5	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;	Section 3
	(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 2
	(c) Any relevant commitments or recommendations identified in the document/s listed in condition A2(c);	Section 0
	(d) A description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 4.3
	(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);	Section 5 Section 8
	(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 6
	(g) A program to investigate and implement ways to improve the environmental performance of the development over time;	Section 5 Section 11
	(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 7
	(i) Public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and	Section 8
	(j) A protocol for periodic review of the plan.	Section 11
	Note: *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*	

2.1.1. 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 4** and incorporated into the management measures provided in **Section 4**.

Table 4: Biodiversity Management Measures from EIS

EIS Reference	Recommendation	Where Addressed
General	• Ensure all staff working on the Project are inducted on:	Section 4.3.1

EIS Reference	Recommendation	Where Addressed
	• Site environmental procedures (i.e., vegetation management, sediment and erosion control, protective fencing, 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.	
Removal of native vegetation	• Native vegetation removal will be minimised as far as possible using the following measures: • Utilise existing disturbed and cleared areas for compound, parking and stockpiling to ensure there is not additional impact to vegetation. • Before starting work, a physical vegetation clearing boundary at the approved clearing limit is to be identified and effectively communicated to personnel. The delineation of such a boundary may include the use of temporary fencing or parawebbing and marked as 'No-Go Zones'. Regular inspections should be undertaken to ensure all retained vegetation/fauna habitat is clearly marked and that fencing is in place, where appropriate. • Vegetation within the Site disturbance area would be removed in such a manner so as to avoid damage to surrounding vegetation. Groundcover disturbance should be kept to a minimum where possible. • Some vegetation to be removed would be mulched on-site and reused to stabilise disturbed areas where possible.	Section 4.3.1
	• A preclearing inspection will be undertaken by a qualified ecologist prior to the removal of vegetation. 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 in Spring, when possible. Any fallen timber, dead wood and bush rock encountered on site would be left in situ where possible or relocated to a suitable place nearby. Rock would be removed with suitable machinery so as not to damage the underlying rock or result in excessive soil disturbance.	Section 4.3.1
	• Implement staged habitat removal to allow fauna to vacate if present so 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.	Section 4.3.1
	• Where tree removal is required, large trees, or part thereof, with hollows can be left in the remnant vegetation where possible to provide habitat or used in the waterway to create snags. Nest-boxes or creating tree hollows through pruning existing trees (in a 1:1 fashion) will be installed in suitable, retained trees to compensate for the loss of large hollows (>20 cm) because of the Project.	Section 4.3.1
	• The Project has a finite life and post mining disturbed areas will be rehabilitated. The result will be a stable environment that is conducive to the establishment of vegetation characteristic to the area that is like the pre-mining vegetation composition.	Section 4.2.3 Section 4.3

EIS Reference	Recommendation	Where Addressed
Revegetation and rehabilitation	• Minor landscaping may be required. Where this occurs, there are two options 1) either allow the area to naturally regenerate or 2) to plant species. Natural regeneration in arid areas is typically more successful than planting vegetation. • If planting is chosen, then all species planted for any purpose should be consistent with those Plant Community Types described in this report. Shrubby vegetation layers can be planted on the Project boundaries to screen and provide habitat.	Section 4.2.3 Section 4.3
Fragmentation of habitat connectivity	• Connectivity impacts will be mitigated post mining through rehabilitation.	Section 4.2.3 Section 4.3
Fauna management	• Personnel will avoid handling wildlife, especially snakes. Fauna handling should only be done by a licenced fauna ecologist or wildlife carer. • In the case of injured fauna contact a nominated animal rescue agency/wildlife care group or veterinarian if an animal is injured as per the proponent's fauna handling and rescue procedure.	Section 4.3.2
Vehicle strike	• Low speed limits in place on mine site roads. • 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 4.3.1
Changes to hydrology	• A water management system will be implemented to prevent release of contaminated water, manage sediment affected water, divert clean water around mining activities and infrastructure.	Conditions B42 – B43
Aquatic impacts	• Follow relevant legislation guidelines regarding impact to waterways. • Identify and mitigate potential risks to water quality (e.g. sediment from construction, importation of clean fill). Rehabilitation of waterways will occur post mining. • Construction to occur during dry periods only. • Do not refuel, store, or decant chemicals within 50 m of a waterway.	Section 4.3.1
Soil management and stockpiles	• Provide sediment and erosion controls to manage exposed soil surfaces and stockpiles to prevent sediment discharge into vegetation and fauna habitat. • Clearly identify stockpile and storage locations and provide erosion and sediment controls around stockpiles. • Stockpile and compound sites would be located using the following criteria: • At least 40 m away from the nearest waterway • On relatively level ground • Outside the one in 10-year Average Recurrence Interval (ARI) floodplain. • Stockpiling materials and equipment and parking vehicles would be avoided within the dripline (extent of foliage cover) of any tree.	Section 4.3.1
Invasion and spread of pests, pathogens, and disease	• Any priority weeds in the Project area would be sprayed and managed as far as possible. Application of a native grass mix or sterile exotic grass mix in areas disturbed by the Project post construction will assist in bank stabilisation and preventing further invasion and spread of weeds.	Section 4.3.1

EIS Reference	Recommendation	Where Addressed
	• 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. • Weed-free fill would be used for on-site earthwork. • All chemicals would be used in accordance with the requirements on the label. 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. • All food scraps and rubbish are to be appropriately disposed of in sealed receptacles to prevent providing forage habitats for foxes, rats, dogs, and cats. • Any roadkill near or caused by the Project is to be relocated away from the site to prevent bird species which eat carrion from being injured by traffic. • Pathogens such as *Phytophthora cinnamomi* will be managed by implementing precautions such as washing down equipment prior to commencing the Project. • Handling of frogs encountered during construction will be done only if necessary, and always in accordance with safe frog handling procedures to prevent the spread of Chytridiomycosis (Amphibian Chytrid Fungus Disease).	
Edge effects on adjacent native vegetation and habitat	• Exclusion zones will be set up at the limit of clearing.	Section 4.3.1
Noise, light and vibration	• Noise, dust vibration and artificial light impacts will be minimised by strategic project planning to reduce the creation of noise, light, dust, and vibration impacts.	Section 4.3.1
New or evolving impacts	• Adaptive management is recommended to be able to respond to changing circumstances.	Section 4.3.1 Section 6.2

2.2. Biosecurity Act 2015

Under to 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:

(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.

2.2.1. General biosecurity duty

Under Part 3 of the *Biosecurity Act 2015*, Hera Resources and individuals have 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. Hera Resources have a strategy to prevent and manage biosecurity risk on the Site (see **Section 4**, **Appendix C** and **Appendix D**).

2.3. Biodiversity Conservation Act 2016

The purpose of the 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, Hera Resources 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 2.1** of this BioMP).

Section 4 of this BioMP provides management measures to ensure that Hera Resources limits impacts to biodiversity to those which are approved under SSD 23419456.

2.4. Consultation

Condition B70(b) requires this management plan to be prepared in consultation with the NSW Government Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) – Biodiversity, Conservation and Science Directorate (BCS).

Detailed consultation was conducted with BCS for the MOD 2 EIS. As such, consultation was not required for the administrative updates to this plan. This approach was confirmed by DPHI in their letter dated 15 April 2025 and attached in **Appendix A**.

The consultation detailed in **Table 5** below was completed as part of the previous version of this management plan.

Table 5: Consultation Log

Authority	Comments
BCS	Consultation recommendations were received from BCS on 7 February 2024 (DOC24/89232). The recommendations have been addressed in version 0.2 of this BioMP.

3. BASELINE ENVIRONMENT

Condition C5(a) of SSD 23419456 requires a summary of relevant background or baseline data for the Site. This Section is limited to describing relevant biodiversity values that will be managed under this BioMP. The Site (mapped in **Figure 1** and **Figure 2**) covers approximately 5,356 hectares (ha).

3.1. Land Use History

Significant portions of the Site have been historically disturbed for mining (including timber cutting), rural settlement associated with the former Nymagee Copper Mine, and thereafter continuous sheep and goat grazing (**Figure 5** shows historic timber cutting / thinning across the Hera Mine).

More recently there has been disturbance and clearing for the construction of Hera Mine, however there is still approximately 94.65 percent cover of native vegetation within the Site (**Figure 6** shows the proportion of native vegetation cover).

3.2. Vegetation

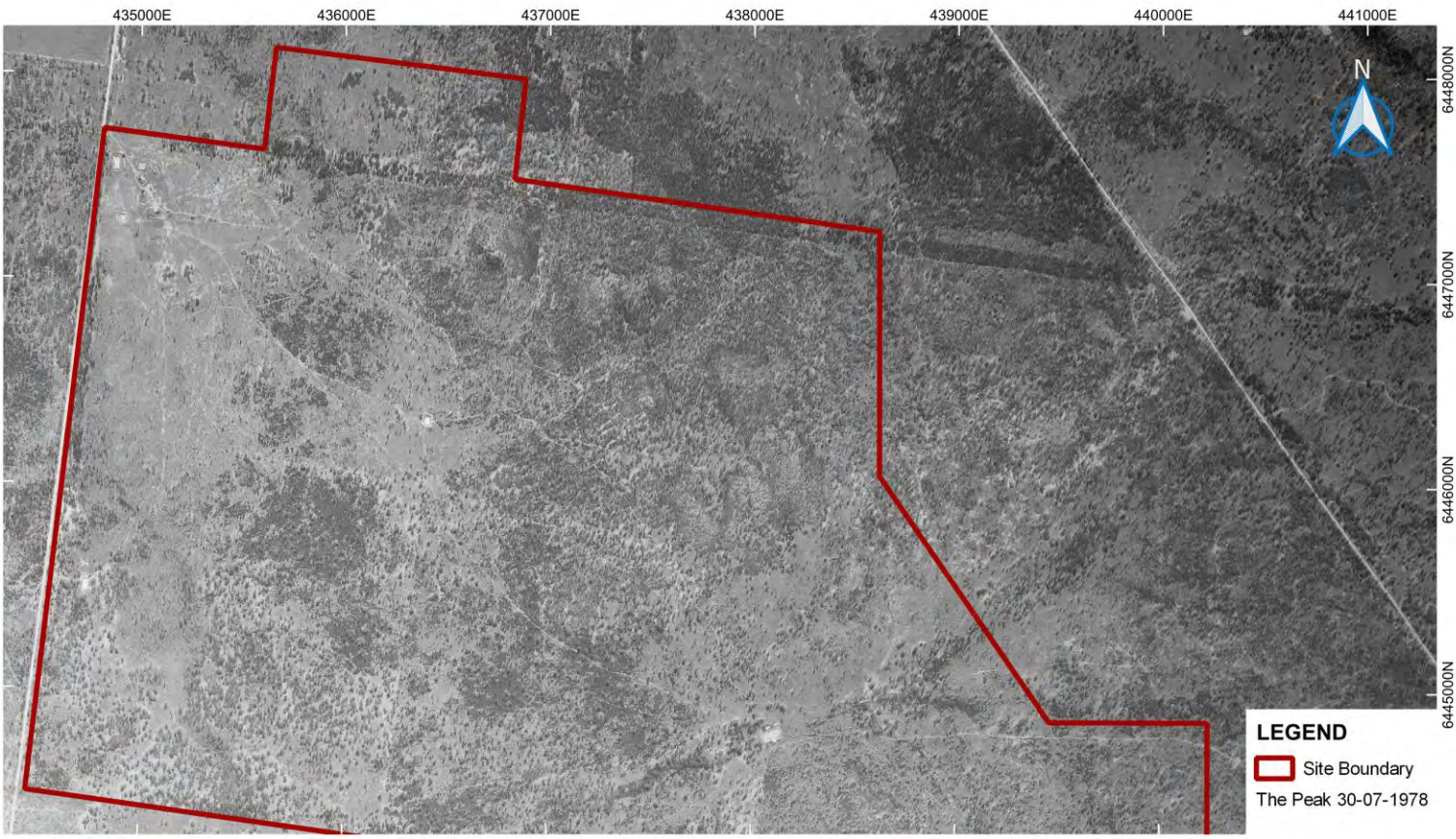
Native vegetation is a core biodiversity value protected under the NSW *Biodiversity Conservation Act 2016* (BC Act) and *Biodiversity Conservation Regulation 2017*. Condition B70 of SSD 23419456 requires the proponent to manage and protect remnant vegetation on the Site.

3.2.1. Vegetation communities

Plant Community Types (PCTs) are the master community-level typology used to classify vegetation communities in NSW. PCTs recorded on the Site during ecological assessment are listed in **Table 6**. The values provided in the column "Extent on Site (ha)" are for vegetation communities which are to be retained on Site following the completion clearing within the ADA (**Figure 7**). The association of PCTs with Threatened Ecological Communities (TECs) is also provided in this table.

Table 6: Plant Community Types on the Site

PCT ID	PCT Description	Conservation Status	Extent on Site (ha)
103	Poplar Box - Gum Coolabah - White Cypress Pine shrubby woodland mainly in the Cobar Peneplain Bioregion	Not associated with a TEC	3,259.84
104	Gum Coolabah woodland on sedimentary substrates mainly in the Cobar Peneplain Bioregion	Not associated with a TEC	302.91
174	Mallee - Gum Coolabah woodland on red earth flats of the eastern Cobar Peneplain Bioregion	*Acacia Loderi Shrublands* (Endangered) – confirmed not present on the Site	1,077.89
176	Green Mallee - White Cypress Pine very tall mallee woodland on gravel rises mainly in the Cobar Peneplain Bioregion	Not associated with a TEC	122.37
180	Grey Mallee - White Cypress Pine woodland on rocky hills of the eastern Cobar Peneplain Bioregion	Not associated with a TEC	43.66
184	Dwyer's Red Gum - White Cypress Pine - Currawang low shrub-grass woodland of the Cobar Peneplain Bioregion	Not associated with a TEC	56.01
258	Gum Coolabah - Mugga Ironbark - White Cypress Pine woodland on granite low hills in the eastern Cobar Peneplain Bioregion and central NSW South Western Slopes Bioregion	Not associated with a TEC	206.59
0	Not native vegetation	Not applicable	286.72
		Total	**5,355.99**



GDA94 MGA Zone 55
21/04/2023

Aurelia Metals - Federation BioMP

Historic timber cutting / thinning across Hera Mine

FIGURE 5

0 1,000 2,000 3,000 m

Scale 1 : 30,000

Sheet Size : A3

aurelia METALS

AREA

LEGEND

- Site Boundary
- Native vegetation extent

ESRI Satellite (28-11-2020)

GDA94 MGA Zone 55
21/04/2023

0 1,000 2,000 3,000 m

Scale 1 : 50,000

Sheet Size : A3

Aurelia Metals - Federation BioMP

Native vegetation extent across the Site

FIGURE 6

LEGEND

- Site Boundary
- Plant Community Types
  - PCT103
  - PCT104
  - PCT174
  - PCT176
  - PCT180
  - PCT184
  - PCT258
- ESRI Satellite (28-11-2020)

GDA94 MGA Zone 55
21/04/2023

0 1,000 2,000 3,000 m

Scale 1 : 50,000

Sheet Size : A3

Aurelia Metals - Federation BioMP

Plant Community Types recorded on the Site

FIGURE 7

3.2.2. 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 **Section 5**).

VI scores for all PCTs on the Site (except PCT184) are provided in **Table 7**. This data was collected by AREA Environmental & Heritage Consultants Pty Ltd between July 2021 and June 2022 for the *Biodiversity Development Assessment Report: Federation Project EIS (Amended)* (AREA, 2022).

Table 7: Vegetation Integrity Scores for PCTs in 2021-22.

Zone	PCT	Composition Condition Score	Structure Condition Score	Function Condition Score	Vegetation Integrity (VI) Score 2021-22
1	103 (dense)	95.3	82.8	91.2	**89.6**
2	103 (open)	92	33.2	15.8	**36.4**
3	104	61.4	61.9	83.0	**68.1**
4	174	98.2	93.2	68.6	**85.6**
5	176	58.3	62.5	42.7	**53.8**
6	180	72.7	66.8	47.3	**61.3**
7	258	88.0	58.4	99.3	**79.9**

A vegetation zone is an area of the same PCT with the same broad condition state. Vegetation zones (and the associated vegetation monitoring plots) will be developed following the first year of biodiversity monitoring (see **Section 5**).

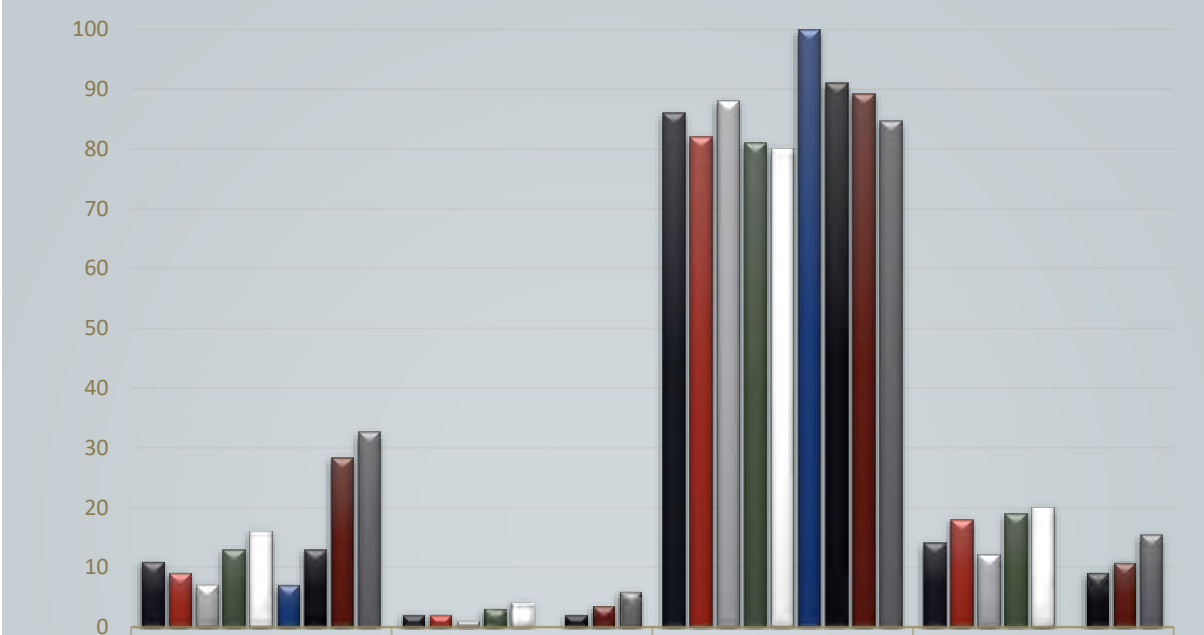
The results of the baseline survey (AREA, 2022) reveal a broad range of VI scores across the Site, which reflect the land use history, and known historical disturbance. Vegetation zones on the Site have potential for significant VI score gains with appropriate environmental management actions.

3.2.3. Flora species richness

Annual biodiversity monitoring at the Hera Mine Site between 2013 and 2022 reveals an average of 13 percent exotic species richness across all monitoring points (**Chart 1**).

This BioMP contains a vegetation monitoring program which will build upon the existing data set and provide greater insight into patterns and trends which will support evidence-based decision making.

Chart 1: Native and Exotic Flora Species Richness Recorded at Hera Mine 2013-2022.



	Avg. no. of native species	Avg. no. of exotic species	% Native species	% Exotic species
2013	11	2	86	14
2014	9	2	82	18
2015	7	1	88	12
2016	13	3	81	19
2017	16	4	80	20
2018	7	0	100	0
2019	13	2	91	9
2020	28.3	3.5	89	11
2022	32.6	5.9	85	15

3.3. Fauna 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 (AREA, 2022) identified multiple environmental variables which contribute to the suitability of the Site as habitat for a variety of threatened species.

3.3.1. Habitat features

Habitat requirements of threatened species predicted or known to occur on the Site were assessed during the baseline biodiversity assessment (AREA, 2022). **Table 8** provides a summary of the habitat features utilised by threatened species on the Site. Habitat features that are not directly associated with native vegetation are marked with an asterisk* and mapped on **Figure 9**.

Table 8: Habitat Features for Threatened Species Recorded on the Site

Habitat Feature	Site Location and Abundance	Example Associated Threatened Species
Hollow bearing trees	Associated with remnant native vegetation and occurs throughout the Site (**Figure 6**)	Glossy Black-Cockatoo, Major Mitchell's Cockatoo, Masked Owl
Decorticating bark	Associated with PCTs co-dominated by 'gum barked' eucalypts, which includes all PCTs recorded on Site (**Figure 7**).	Corben's Long-eared Bat, Grey-crowned Babbler
Shrubs	Associated with remnant native vegetation and occurs throughout the Site (**Figure 6**)	Kultarr, Dusky Woodswallow, Pied Honeyeater, Chestnut Quail-thrush
Flowering plants / nectar / mistletoe	Associated with remnant native vegetation and occurs throughout the Site (**Figure 6**)	Painted Honeyeater, Pied Honeyeater
Fallen logs	Associated with remnant native vegetation and occurs throughout the Site (**Figure 6**)	Kultarr, Southern Ningaui, Stripe-faced Dunnart
Rocks / outcrops*	Rocky outcrops, crevices and caves are naturally discontinuous across the Site (**Figure 9**)	Stripe-faced Dunnart, Little Pied Bat
Crevices*		Corben's Long-eared Bat
Caves*		Eastern Bent-winged Bat, Little Pied Bat
Hydrological features*	Hydrological features include only minor and highly ephemeral unnamed drainage lines (**Figure 9**)	Marble-faced Delma, Black-breasted Buzzard

3.3.2. 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 well connected to habitat features in the surrounding landscape. Native vegetation cover is continuous between Balowra State Conservation Area (south of Federation Mine) to Gundabooka National Park (north of Cobar).

No significant hydrological features (or associated riparian vegetation) provide habitat connectivity across the Site. Rocky outcrops, crevices and caves are naturally discontinuous across the Site, these are mapped in (**Figure 9**).

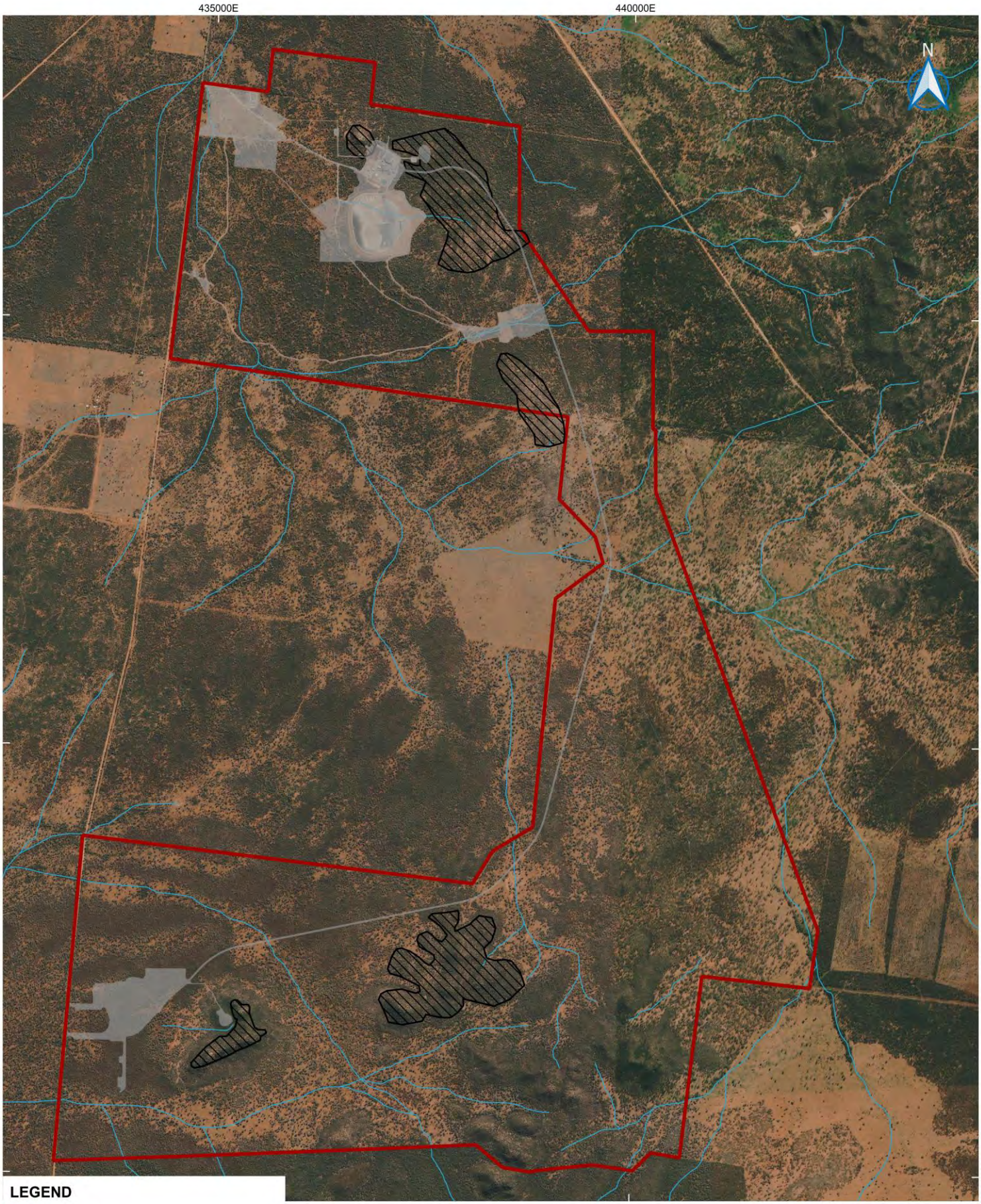
3.3.3. Water sustainability

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 occurs in a relatively arid area with no permanent rivers, creeks, streams, or ephemeral wetlands within 1500 m (**Figure 9**).

The nearest named hydrological feature is Box Creek, a third Strahler Order waterway approximately 2.5 kms to the west of Hera Mine. Dams and drainage lines in the study area lack aquatic habitat which would attract insects and amphibian species. No Key Fish Habitat is mapped within 10 kms of the Site.

3.3.4. 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.



LEGEND

- Site Boundary
- Approved Disturbance Area
- Rocky features
- Minor(highly ephemeral) hydrological feature

Google Satellite Imagery

GDA94 MGA Zone 55
21/08/2023

0 1,000 2,000 3,000 4,000 5,000 m

Scale 1 : 50,000

Sheet Size : A3

Aurelia Metals - Federation BioMP

Non-native vegetation associated habitat features recorded on the Site

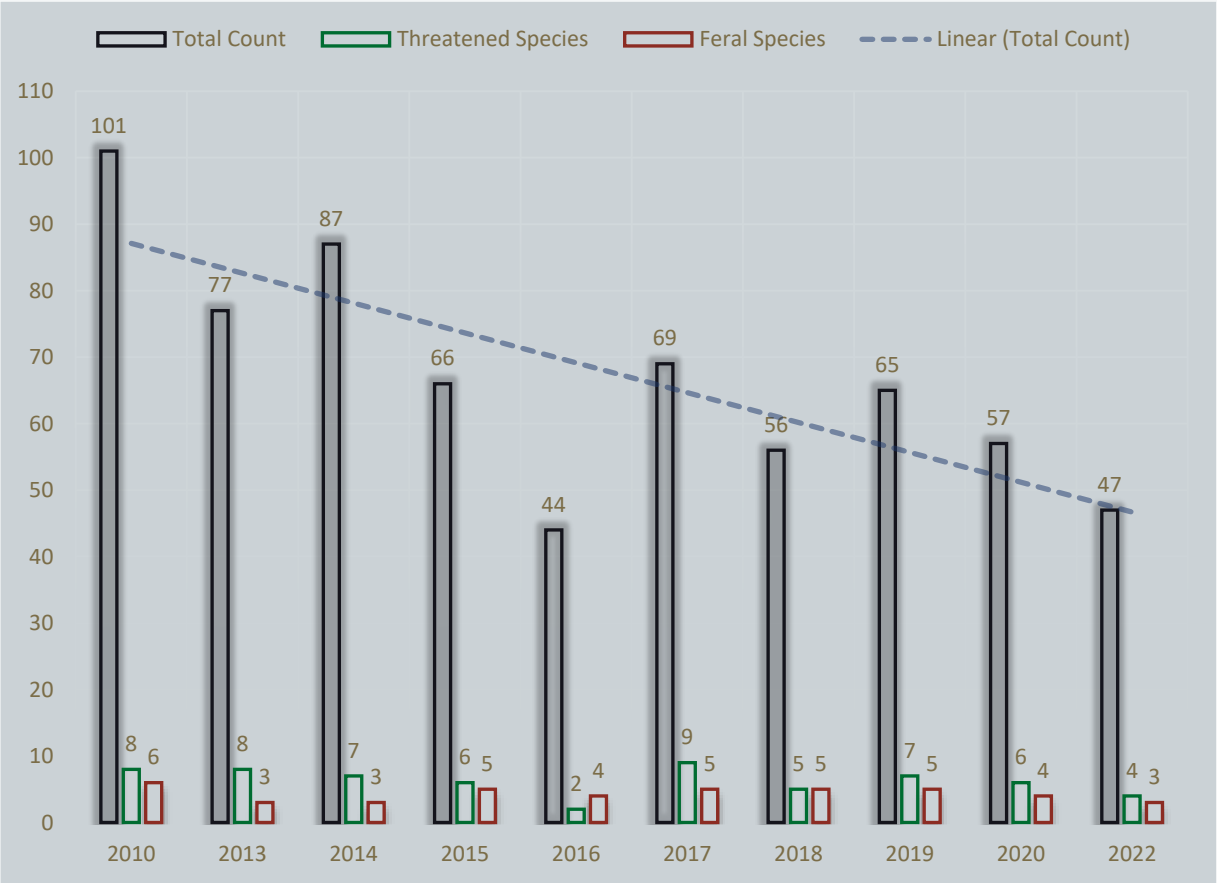
FIGURE 9

3.3.5. Fauna species richness

Fauna species richness recorded at the Hera Mine Site has declined between 2010 and 2022 (**Chart 2**).

This BioMP contains a fauna monitoring program which will build upon the existing data set and provide greater insight into patterns and trends which will support evidence-based decision making.

Chart 2: Fauna Species Richness Recorded at the Hera Mine Site.



3.4. Threatened Entities

Threatened entities face a real risk of extinction through a cumulative combination of human impacts. These impacts may include:

- Reducing the population size of a species
- Restricting the geographic distribution of a species or ecological community
- Reducing the number of mature individuals of a species
- Environmental degradation of an ecological community, and
- Disruption of biotic processes or interactions in an ecological community.

3.4.1. Threatened species

Threatened species which are predicted, assumed, or known to occur on the Site are provided in **Table 9**. Each of these species have available habitat on the Site, which is located within the known geographic distribution of each species.

Table 9: Threatened Species Predicted to Occur on Site

Species	Habitat Requirements	Sensitivity to Gain Class	BC Act Listing	EPBC Act Listing
Antechinomys laniger **Kultarr**	A terrestrial insectivore that inhabits open country, especially claypans among Acacia woodlands. Nocturnal, sheltering by day in hollow logs or tree-stumps,	High Sensitivity to Potential Gain	Endangered	-

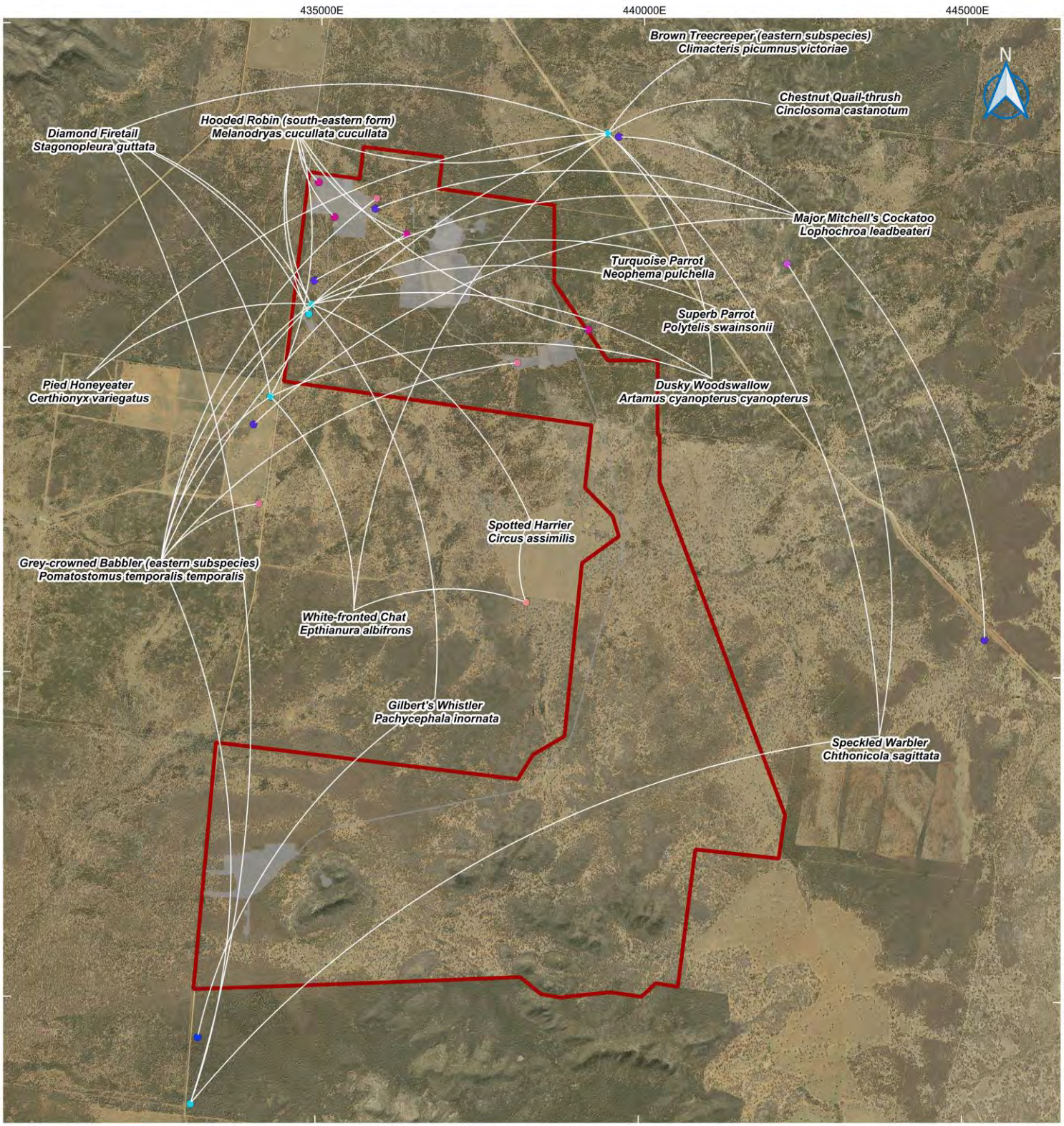
Species	Habitat Requirements	Sensitivity to Gain Class	BC Act Listing	EPBC Act Listing
	beneath saltbush and spinifex tussocks, in deep cracks in the soil and in the burrows of other animals.			
Artamus cyanopterus **Dusky Woodswallow**	Primarily inhabit dry, open eucalypt forests and woodlands, including 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.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Calyptorhynchus lathami **Glossy Black-Cockatoo** *(Foraging)*	**Foraging constraint:** Presence of *Allocasuarina* and *Casuarina* species. **Breeding constraint:** Hollow bearing trees; living or dead tree with hollows greater than 15cm diameter and greater than eight metres above ground.	High Sensitivity to Potential Gain	Vulnerable	Vulnerable
Certhionyx variegatus **Pied Honeyeater**	Inhabits wattle shrub, primarily Mulga (*Acacia aneura*), mallee, spinifex and eucalypt woodlands, usually when shrubs are flowering; feeds on nectar, predominantly from various species of emu-bushes (*Eremophila* spp.); also from mistletoes and various other shrubs (e.g. *Grevillea* spp.); also eats saltbush fruit, berries, seed, flowers and insects.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Chalinolobus picatus **Little Pied Bat**	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. Can tolerate high temperatures and dryness but need access to nearby open water.	High Sensitivity to Potential Gain	Vulnerable	-
Chthonicola sagittata **Speckled Warbler**	The Speckled Warbler lives in a wide range of *Eucalyptus* dominated communities that have a grassy understorey, often on rocky ridges or in gullies. Typical habitat would include scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy. Large, relatively undisturbed remnants are required for the species to persist in an area.	High Sensitivity to Potential Gain	Vulnerable	-
Cinclosoma castanotum **Chestnut Quail-thrush**	In NSW it seems to occur almost exclusively in mallee habitats, with understorey dominated by spinifex, chenopods or other shrubs including *Acacia* species. Only rarely, such as in Cocoparra National Park, is it recorded in other types of woodland, and in these areas a dense understorey may be a prerequisite.	High Sensitivity to Potential Gain	Vulnerable	-
Circus assimilis **Spotted Harrier**	Occurs in grassy open woodland including *Acacia* and mallee remnants, inland riparian woodland, grassland and shrub steppes. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open	Moderate Sensitivity to Potential Gain	Vulnerable	-

Species	Habitat Requirements	Sensitivity to Gain Class	BC Act Listing	EPBC Act Listing
	habitats including edges of inland wetlands.			
Daphoenositta chrysoptera **Varied Sittella**	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and *Acacia* woodland.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Delma australis **Marble-faced Delma**	Appears to be restricted to temperate mallee woodlands or spinifex grasslands but elsewhere is also found in chenopod shrublands, heathlands and buloke associated with mallee habitats or eucalypt lined watercourses. **Habitat constraint:** *Triodia* (spinifex)	Moderate Sensitivity to Potential Gain	Endangered	-
Falco hypoleucos **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.	Moderate Sensitivity to Potential Gain	Endangered	Vulnerable
Falco subniger **Black Falcon**	Occurs across NSW but is sensitive to loss of large old trees from the landscape, a resource that is critical for nesting and hunting.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Grantiella picta **Painted Honeyeater**	Inhabits Boree/ Weeping Myall (*Acacia pendula*), Brigalow (*A. harpophylla*) 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 *Amyema*. **Habitat constraint:** Mistletoes present at a density of greater than five mistletoes per hectare.	Moderate Sensitivity to Potential Gain	Vulnerable	Vulnerable
Hamirostra melanosternon **Black-breasted Buzzard** (Foraging)	Lives in a range of inland habitats, especially along timbered watercourses which is the preferred breeding habitat. Also hunts over grasslands and sparsely timbered woodlands. **Breeding habitat constraint:** Land within 40 m of riparian woodland on inland watercourses/waterholes containing dead or dying eucalypts.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Hieraaetus morphnoides **Little Eagle** (Foraging)	Occupies open eucalypt forest, woodland, or open woodland. Sheoak or *Acacia* 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. **Breeding habitat constraint:** Nest trees - live (occasionally dead) large old trees within vegetation.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Hirundapus caudacutus **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	High Sensitivity to Potential Gain	-	Vulnerable

Species	Habitat Requirements	Sensitivity to Gain Class	BC Act Listing	EPBC Act Listing
	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.			
Hylacola cautus **Shy Heathwren**	Inhabits mallee woodlands with a relatively dense understorey of shrubs and heath plants. Occurs in Central NSW at low densities in rocky hilltop vegetation with a thick shrub layer such as Broombush or Tea-tree. Appears to occur in all age classes of vegetation, though believed to prefer either one to five years following fire when the resprouting eucalypts provide dense vegetation cover or in long unburnt (greater than 40 years) areas which have a well developed shrub layer.	High Sensitivity to Potential Gain	Vulnerable	-
Leipoa ocellata **Malleefowl**	Predominantly inhabits mallee communities, preferring the tall, dense and floristically-rich mallee found in higher rainfall (300 - 450 mm mean annual rainfall) areas. Utilises mallee with a spinifex understorey, but usually at lower densities than in areas with a shrub understorey. Less frequently found in other eucalypt woodlands, such as Inland Grey Box, Ironbark or Bimble Box Woodlands with thick understorey, or in other woodlands such dominated by Mulga or native Cypress Pine species. Prefers areas of light sandy to sandy loam soils and habitats with a dense but discontinuous canopy and dense and diverse shrub and herb layers.	High Sensitivity to Potential Gain	Endangered	Vulnerable
Lophochroa leadbeateri **Major Mitchell's Cockatoo** (Foraging)	Inhabits a wide range of treed and treeless inland habitats, always within easy reach of water. Feeds mostly on the ground, especially on the seeds of native and exotic melons and on the seeds of species of saltbush, wattles and cypress pines. Nests in tree hollows.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Lophoictinia isura **Square-tailed Kite** (Foraging)	Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Melanodryas cucullata **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 Sensitivity to Potential Gain	Vulnerable	-
Melithreptus gularis gularis **Black-chinned Honeyeater** (eastern subspecies)	Occupies mostly upper levels of drier open forests or woodlands dominated by box and ironbark eucalypts.	Moderate Sensitivity to Potential Gain	Vulnerable	-

Species	Habitat Requirements	Sensitivity to Gain Class	BC Act Listing	EPBC Act Listing
Neophema pulchella **Turquoise Parrot**	Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland.	High Sensitivity to Potential Gain	Vulnerable	-
Ningaui yvonneae **Southern Ningaui**	Shelters in spinifex clumps, beneath logs, and in dense vegetation, but may also dig its own burrows.	High Sensitivity to Potential Gain	Vulnerable	-
Ninox connivens **Barking Owl** (Foraging)	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. **Breeding habitat constraint:** Living or dead trees with hollows greater than 20 cm diameter and greater than 4m above the ground.	High Sensitivity to Potential Gain	Vulnerable	-
Nyctophilus corbeni **Corben's Long-eared Bat**	Inhabits a variety of vegetation types, including mallee, bulloke (*Allocasuarina leuhmanni*) and box eucalypt dominated communities, but it is distinctly more common in box/ironbark/cypress-pine vegetation that occurs in a north-south belt along the western slopes and plains of NSW. Roosts in tree hollows, crevices, and under loose bark.	High Sensitivity to Potential Gain	Vulnerable	Vulnerable
Pachycephala inornata **Gilbert's Whistler**	Within the mallee the species is often found in association with an understorey of spinifex and low shrubs including wattles, hakeas, sennas and hop-bushes. In woodland habitats, the understorey comprises dense patches of shrubs, particularly thickets of regrowth *Callitris* pine. Parasitic 'cherries' (*Exocarpus* species) appear to be an important habitat component in Belah and Red Gum communities, though in the latter case other dense shrubs, such as Lignum and wattles, are also utilised.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Polytelis swainsonii **Superb Parrot** (Foraging)	Inhabit Box-Gum, Box-Cypress-pine and Boree woodlands and River Red Gum forest. **Breeding habitat constraint:** Living or dead *E. blakelyi, E. melliodora, E. albens, E. camaldulensis, E. microcarpa, E. polyanthemos, E. mannifera, E. intertexta* with hollows greater than 5cm diameter; greater than four metres above ground or trees with a DBH of greater than 30cm.	Moderate Sensitivity to Potential Gain	Vulnerable	Vulnerable
Pomatostomus temporalis temporalis **Grey-crowned Babbler** (eastern subspecies)	Inhabits open Box-Gum Woodlands on the slopes, and Box-Cypress-pine and open Box Woodlands on alluvial plains. Nests are usually located in shrubs or sapling eucalypts, although they may be built in the outermost leaves of low branches of large eucalypts.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Saccolaimus flaviventris **Yellow-bellied Sheathtail-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. Forages in most habitats across	High Sensitivity to Potential Gain	Vulnerable	-

Species	Habitat Requirements	Sensitivity to Gain Class	BC Act Listing	EPBC Act Listing
	its very wide range, with and without trees; appears to defend an aerial territory.			
Sminthopsis macroura **Stripe-faced Dunnart**	Occurs in 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 Sensitivity to Potential Gain	Vulnerable	-
Stagonopleura guttata **Diamond Firetail**	Found in grassy eucalypt woodlands, open forest, mallee, natural temperate grassland, and in secondary grassland derived from other communities. Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland.	Moderate Sensitivity to Potential Gain	Vulnerable	-
Tiliqua occipitalis **Western Blue-tongued Lizard**	Inhabits plains, swales, ranges and sometimes dunes of loamy or clayey/sandy soils vegetated by woodlands, especially mallee, shrublands (including chenopods), heaths or hummock grasslands. Preferred vegetation type appears to be mixed mallee / *Triodia* communities.	High Sensitivity to Potential Gain	Vulnerable	-
Tyto novaehollandiae **Masked Owl** (foraging)	Lives in dry eucalypt forests and woodlands from sea level to 1100 m. Roosts and breeds in moist eucalypt forested gullies, using large tree hollows or sometimes caves for nesting. **Breeding habitat constraint:** Living or dead trees with hollows greater than 20cm diameter.	High Sensitivity to Potential Gain	Vulnerable	-
Vespadelus baverstocki **Inland Forest Bat**	Roosts in tree hollows and abandoned buildings. Known to roost in very small hollows in stunted trees only a few metres high. The habitat requirements of this species are poorly known but it has been recorded from a variety of woodland formations, including Mallee, Mulga and River Red Gum.	High Sensitivity to Potential Gain	Vulnerable	-
Miniopterus schreibersii oceanensis **Eastern Bent-winged Bat** (Foraging)	Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures.	High Sensitivity to Potential Gain	Vulnerable	-



LEGEND

- Site Boundary
- Approved Disturbance Area

Threatened bird records

- Brown Treecreeper (eastern subspecies)
- Chestnut Quail-thrush
- Diamond Firetail
- Dusky Woodswallow
- Gilbert's Whistler
- Grey-crowned Babbler (eastern subspecies)
- Hooded Robin (south-eastern form)
- Major Mitchell's Cockatoo
- Malleefowl
- Pied Honeyeater
- Speckled Warbler
- Spotted Harrier
- Superb Parrot
- Turquoise Parrot
- White-fronted Chat

NSW Imagery
(NYMAGEE_ADS40_SC_20140803)

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GDA94 MGA Zone 55
21/08/2023

Scale 1 : 70,000

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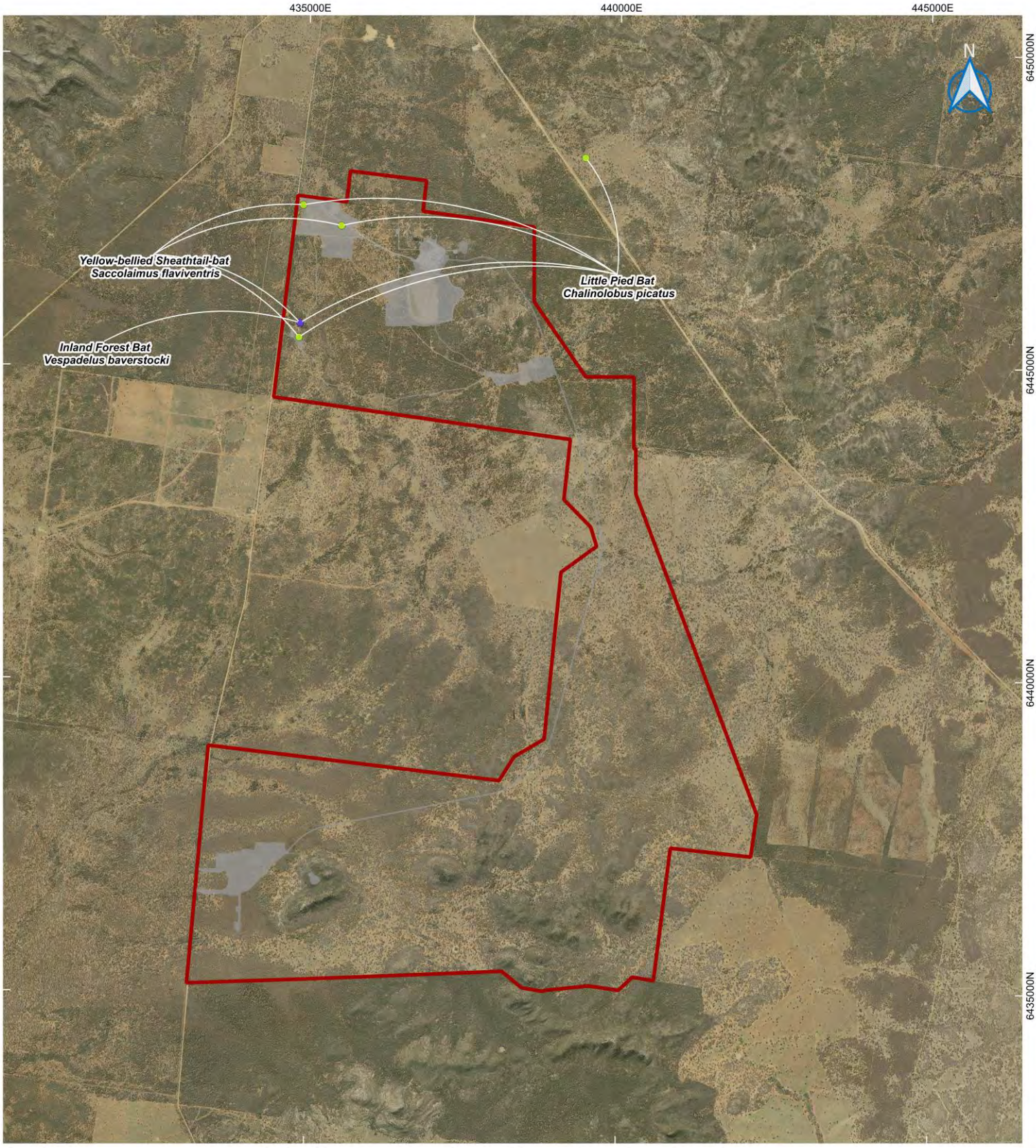
Aurelia Metals - Federation BioMP

Threatened birds previously recorded on the Site

FIGURE 10



LEGEND

- Site Boundary
- Approved Disturbance Area

Threatened bat records

- Inland Forest Bat
- Little Pied Bat
- Yellow-bellied Sheathtail-bat

NSW Imagery
(NYMAGEE_ADS40_SC_20140803)

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Scale 1 : 70,000

Sheet Size : A3

GDA94 MGA Zone 55
21/08/2023

Aurelia Metals - Federation BioMP

Threatened bats previously recorded on the Site

FIGURE 11

aurelia METALS

AREA

3.4.2. Threatened ecological communities

No threatened ecological communities listed under the NSW BC Act or the Commonwealth EPBC Act have been recorded on the Site over multiple years of ecological investigation.

3.5. 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.

3.5.1. 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:

(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 and animals have been previously recorded on the Site and require ongoing management.

Pest Flora

There are few pest flora infestations across the Site. Pest flora species are early colonisers of disturbed areas and high traffic areas. The Site is dominated by native vegetation communities in relatively good condition, providing little opportunity for pest flora populations to establish. The following pest flora species have been recorded on the Site:

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

Pest Fauna

The pest fauna burden on the Site is not insignificant 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*),
- Goat (*Capra hircus*),
- Feral pig (*Sus scrofa*); and,
- European rabbit (*Oryctolagus cuniculus*).

Of particular concern to biodiversity, large populations of goats impact the diversity of the ground stratum and feral cats and foxes are the primary local threat to certain threatened fauna species which are known to occur on the Site.

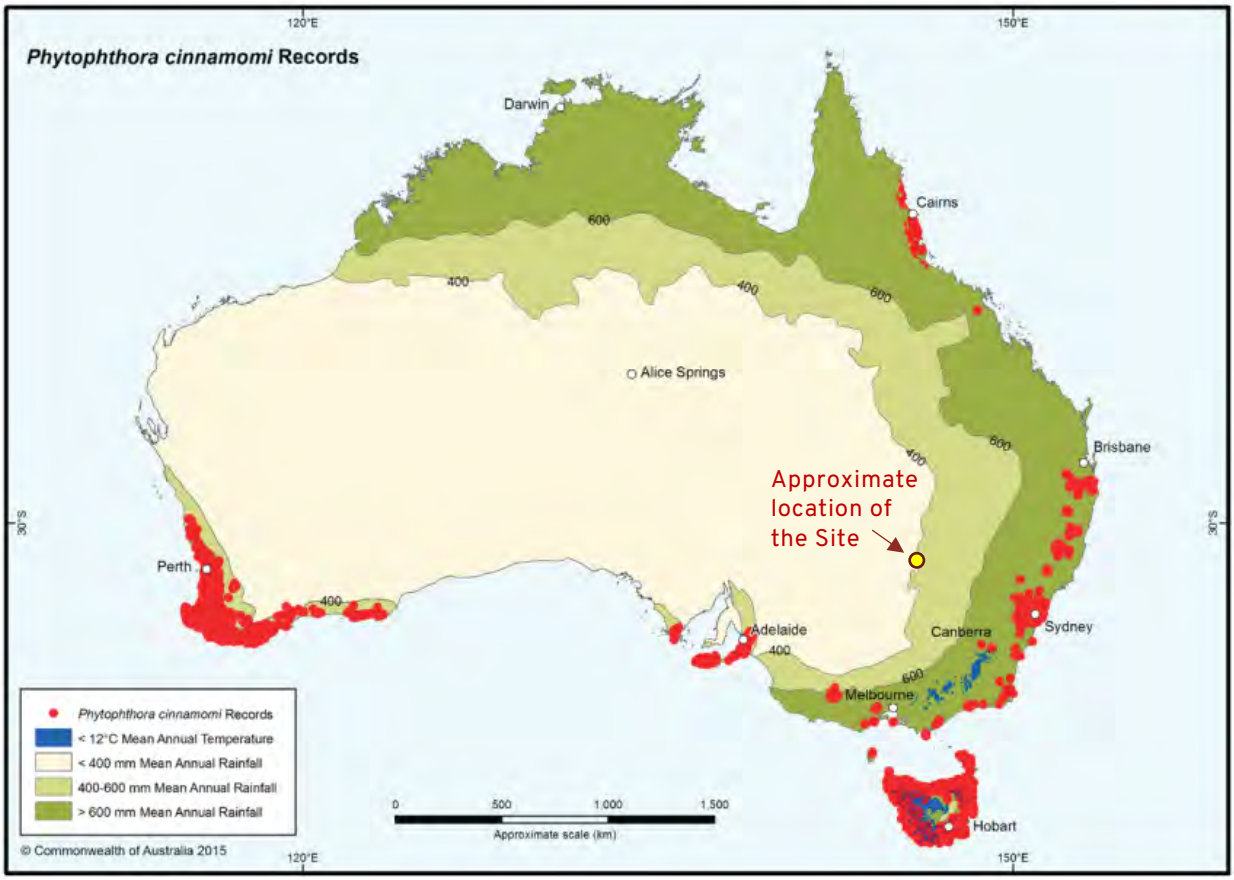
3.5.2. Disease

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.

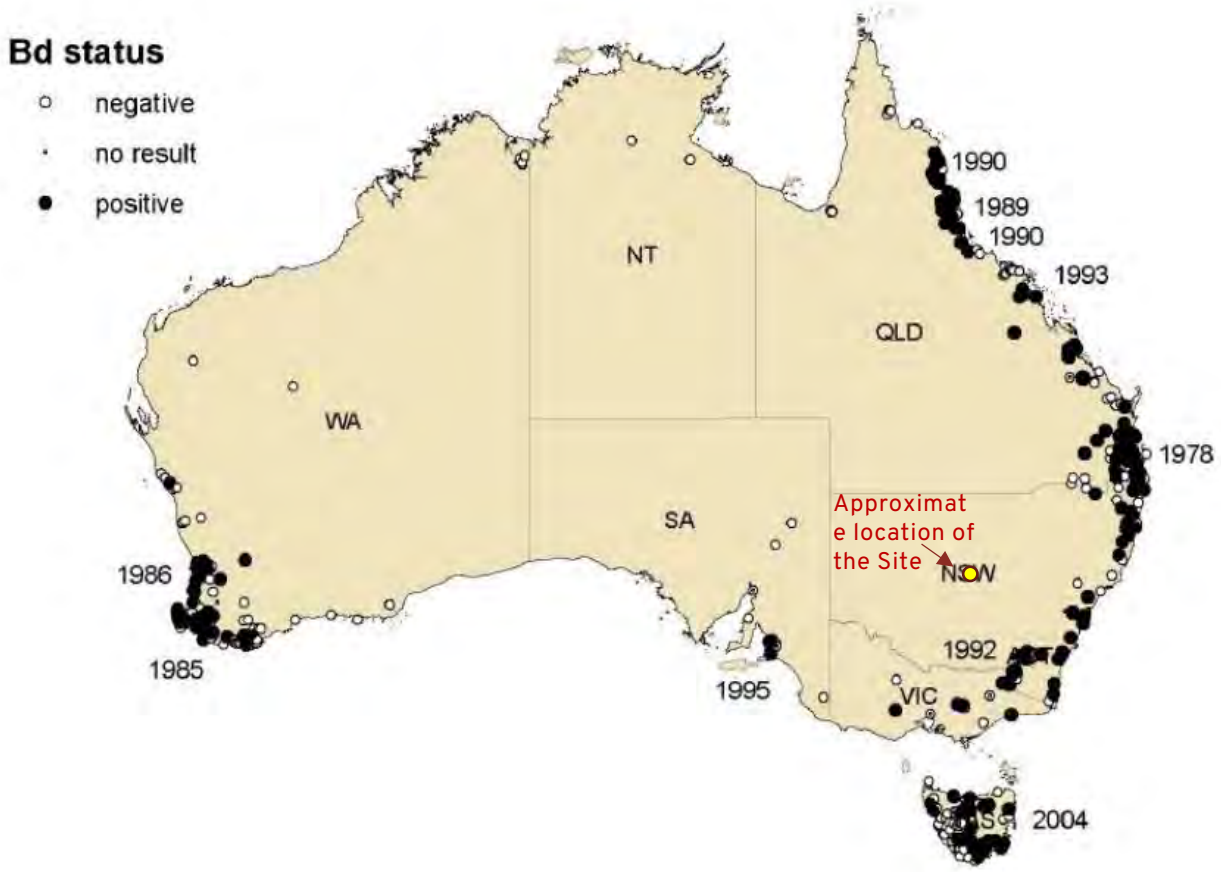
- **Phytophthora (*Phytophthora cinnamomi*):** Phytophthora is soil-borne fungus causing tree death (dieback). It attacks the roots of a wide range of native plant species. Spores can be dispersed over relatively large distances by surface and sub-surface water flows. Infected soil/root material may be dispersed by vehicles (e.g. earth moving equipment). It is considered a very low risk to the Site due to the low annual rainfall of the area and known distribution of infection (**Figure 11**). However, it remains possible that the disease could be introduced to the Site, precautions are appropriate given the potential consequences of introducing the fungus.

Figure 11: P. cinnamomi Isolations, Records of Impact and Broad Climatic Envelope of P.cinnamomi Susceptibility in Australia.



- **Infection by Psittacine Circoviral (beak and feather):** Psittacine Circoviral (beak and feather) Disease (PCD) affects parrots and their allies (psittacines) and is often fatal. No other faunal species or groups are known to be susceptible to PCD (Murdoch University 1997). It is caused by a relatively simple virus which infects and kills the cells of the feather and beak, as well as cells of the immune system, leaving birds vulnerable to bacterial and other infections (Murdoch University 1997). The distribution of the disease and the factors involved in its spread are not well understood. The virus multiplies in the liver and can be transmitted orally or in faeces or feathers.
- **Chytrid fungus (*Batrachocytrium dendrobatidis*):** 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. It is considered a low risk to the Site due to the proximity of existing distribution and low annual rainfall of the area – however, it remains possible that the disease could be introduced to the Site (**Figure 12**).

Figure 12: Map of the Distribution of Chytridiomycosis (with dates of first detection).



3.5.3. 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, extensive 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 Site disturbance area that will be exacerbated by the Project is clearing of native vegetation associated with infrastructure development.

4. BIODIVERSITY MANAGEMENT MEASURES

This section describes the measures to be taken to manage the remnant vegetation and fauna habitat on the Site in accordance with SSD 23419456.

4.1. Biodiversity Outcomes

The following obligations related to biodiversity outcomes have been extracted from Conditions B68-B70 of SSD 23419456:

- Retire biodiversity credits in accordance with the Biodiversity Offsets Scheme of the BC Act.
- Minimise impacts within the ADA.
- Maximise the salvage of biodiversity resources for beneficial reuse.
- Protect biodiversity values outside of the ADAs.
- Control pest plants and animals across the Site.
- Control human access to vegetated or revegetated areas.

4.1.1. Biodiversity offsets

Conditions B68 and B69 of SSD 23419456 require the retirement of biodiversity credits in accordance with the Biodiversity Offsets Scheme of the BC Act. Refer to **Appendix A** for a figure of the stages of biodiversity credit retirement consistent with Schedule 2 Condition B68 of SSD 24319456.

Hera Resources will retire the biodiversity credits required for each stage of the Project in accordance with the consent. Hera Resources own biodiversity credits in the local landscape and will utilise this resource to meet part of the credit obligation, contributing to biodiversity values in the local landscape.

4.2. Biodiversity Management Zones

Three biodiversity management zones have been mapped for the Site (**Figure 13**).

4.2.1. High Traffic Zone

The 'High Traffic Zone' includes the ADA with an additional buffer of 25 m. The 'High Traffic Zone' is at greatest risk of the following biodiversity impacts:

- Infestation of vegetation communities by pest plants
- Vehicle strikes to native and protected fauna, and
- Dust deposition onto native plants affecting photosynthesis, respiration, transpiration.

4.2.2. Green Zone

The 'Green Zone' on the Site is outside of the ADA and contains remnant native vegetation communities in relatively good condition (see **Section 3.2** and **Figure 12**). The 'Green Zone' is at risk of:

- Pest animals preying on native and protected fauna
- Uncontrolled fire, and
- Dumping of rubbish, waste, hazardous materials.

4.2.3. Rehabilitation Zone

The 'Rehabilitation Zone' contains those parts of the ADA that will be rehabilitated in accordance with the Rehabilitation Strategy required by Condition B86 of SSD 23419456.

The 'Rehabilitation Zone' is at risk of:

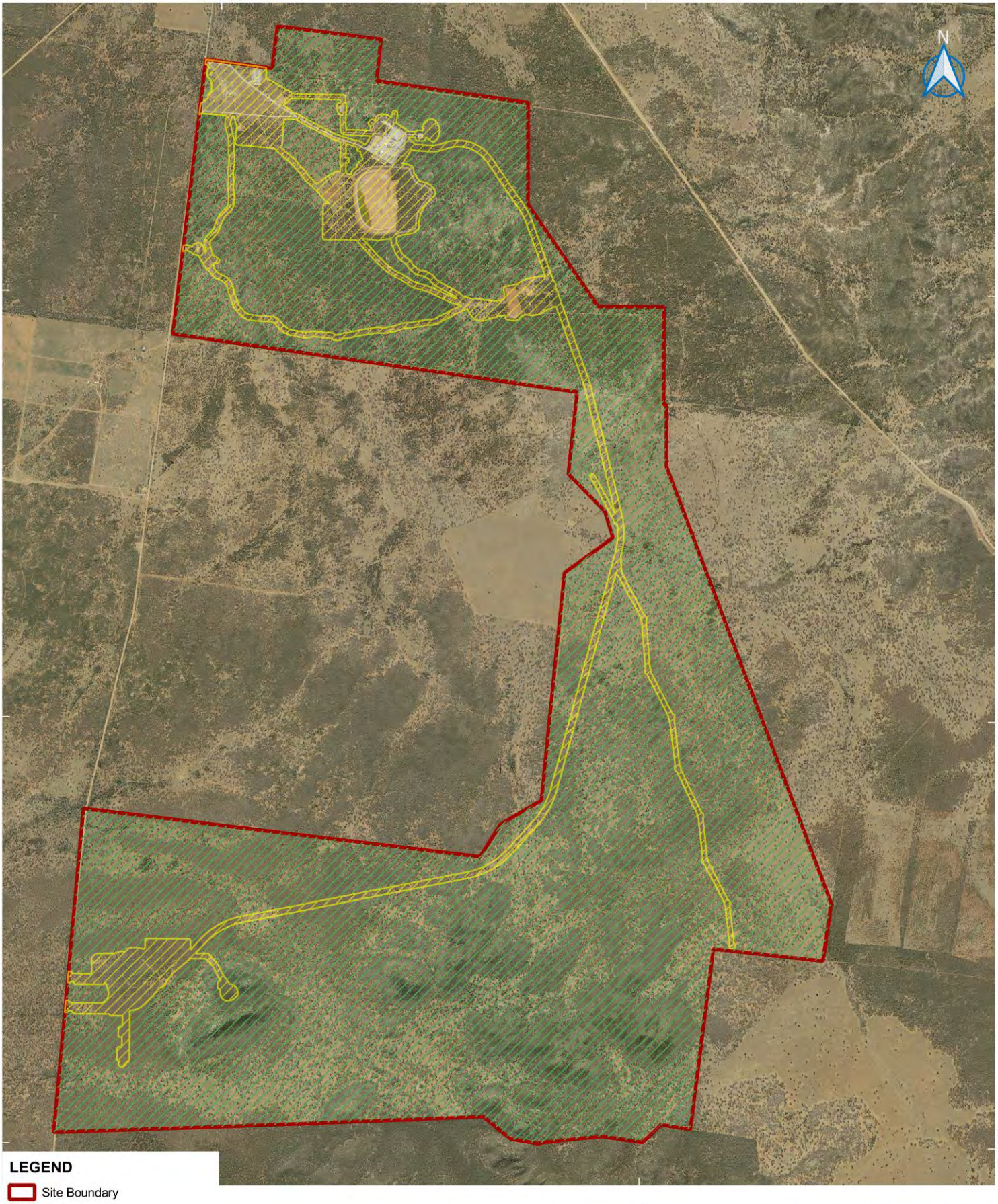
- Infestation by pest plants
- Altered floristic composition associated with soil contamination, and
- Soil erosion, instability, infertility – causing failure of revegetation.

The Rehabilitation Strategy, Rehabilitation Management Plan, and this BioMP concern different aspects of biodiversity management to ensure documentation for the Site is not repetitive. References are made to the Rehabilitation Strategy and Rehabilitation Management Plan throughout this BioMP to direct the reader to more information.

The management measures for the Rehabilitation Zone are contained within the Rehabilitation Strategy and Rehabilitation Management Plan.

Refer to Section 4.5 of the Rehabilitation Strategy for a broad description of rehabilitation measures in the Rehabilitation Zone.

Refer to Section 6.2 of the Rehabilitation Management Plan for more information on weeds, soil contamination, and erosion. Section 4.3 of the Rehabilitation Management Plan outlines the Rehabilitation Objectives and Rehabilitation Completion Criteria which include criteria for soil contamination and vegetation.



LEGEND

- Site Boundary
- Green Zone
- High Traffic Zone

NSW Imagery
(NYMAGEE_ADS40_SC_20140803)

GDA94 MGA Zone 55
2/06/2023

Aurelia Metals - Federation BioMP

Biodiversity Management Zones

FIGURE 13

0 1,000 2,000 3,000 4,000 5,000 m

Scale 1 : 100,000

Sheet Size : A3

aurelia METALS

AREA

4.3. Biodiversity Management Measures

Management measures are actions that are expected to influence certain environmental variables relating to biodiversity objectives which are specified in Development Consent SSD 23419456.

4.3.1. High Traffic Zone management measures

A summary of biodiversity management measures to be taken in the 'High Traffic Zone' are outlined in **Table 10**.

Table 10: Biodiversity Management Measures for the High Traffic Zone

Source	Objective	When Required/ Timing	Management Measures	Monitoring Program	Responsibility
Minimise clearing					
SSD 23419456 B70 (e)(i)	Minimise the amount of vegetation clearing in the ADA	• 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 ADA. • Identify opportunities to avoid fauna habitat values through micro-siting within the ADA.	• Internal reviews • Pre-clearing survey	Environment Team
		• Planned / authorised vegetation clearing activity	• Survey and clearly demarcate each clearing area prior to each approved clearing event. • Review pre-clearing procedure. • Review pre-start / toolbox talk communication procedure.	• Pre-clearing survey	
EIS Appendix T Biodiversity	Minimise the removal of native vegetation	• Preparation for planned / authorised vegetation clearing activity	• Utilise existing disturbed and cleared areas for compound, parking and stockpiling to ensure there is not additional impact to vegetation. • Before starting work, a physical vegetation clearing boundary at the approved clearing limit is to be identified and effectively communicated to personnel, and marked as 'No-Go Zones'. Regular inspections should be undertaken to ensure all retained vegetation/fauna habitat is clearly marked and that fencing is in place, where appropriate. • Vegetation within the Project disturbance area would be removed in such a manner so as to avoid damage to surrounding vegetation. Groundcover disturbance should be kept to a minimum where possible. • Some vegetation to be removed would be mulched on-site and reused to stabilise disturbed areas where possible.	• Internal reviews • Pre-clearing survey	Environment Team
Minimise impacts to fauna					
SSD 23419456 B70 (e)(ii) AND EIS Appendix T Biodiversity	Minimise impacts to fauna in the ADA	• Preparation for clearing activity	• Engage suitably experienced or qualified personnel to carry out pre-clearing surveys in the 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 in Spring, when possible. • Potential breeding habitat is assessed for activity with reference to the key breeding period for potential threatened species (refer to **Appendix F**). • Fallen timber, dead wood and bush rock encountered on site would be left in situ where possible or relocated to a suitable place nearby (in the Green Zone). • Rock would be removed with suitable machinery so as not to damage the underlying rock or result in excessive soil disturbance. • Adhere to the recommendations provided in the pre-clearance survey report. • Implement staged habitat removal to allow fauna to vacate if present so 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.	• Pre-clearing survey • Internal reviews	Environment Team

Source	Objective	When Required/ Timing	Management Measures	Monitoring Program	Responsibility
		• Key threatened species habitat is identified within the ADA during the pre-clearance survey (active nest, active roost, population of a threatened plant)	• On a case-by-case basis, the appropriateness of the NSW Government's Translocation Operational Policy (DPIE, 2019) will be considered where **threatened** species are identified as being likely to be impacted during the pre-clearing survey. Otherwise, a species specific tailored protocol for moving the species out of harms way will be developed, using guiding principles from the Translocation Operational Policy. • Engage suitably experienced or qualified personnel to prepare a Translocation Proposal for the threatened species identified within the ADA (DPIE, 2019).	• Pre-clearing survey • Biodiversity Monitoring Program	
EIS Appendix T Biodiversity	Mitigate impacts associated with fauna / vehicle strike	• Vehicle movements during construction, operation, rehabilitation	• Enforce low speed limits in place on Mine Site roads. • Install warning signs of known wildlife crossings. • Implement and enforce 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 the site to prevent bird species which eat carrion from being injured by traffic.	• Internal reviews	Site Manager, Health and Safety team and Environment Team
EIS Appendix T Biodiversity	Mitigate impacts associated with fauna handling	• Protected (native) fauna are encountered on site	• Personnel will avoid handling wildlife, especially snakes. Fauna handling should only be done by a licenced fauna ecologist or wildlife carer. • In the case of injured fauna contact a nominated animal rescue agency/wildlife car group or veterinarian if an animal is injured as per the proponent's fauna handling and rescue procedure (**Appendix E**).	• Internal reviews	Health and Safety team and Environment Team
EIS Appendix T Biodiversity	Mitigate impacts associated with noise, light, and vibration	• Ongoing management measures (for the life of the Mine)	• Limit noise, vibration, and artificial light to the minimum amount necessary to practically complete the approved activities.	• Internal reviews • Biodiversity Monitoring Program	Environment Team
Maximise salvage of resources					
SSD23419456 B70 (e)(iii)	Maximise salvage of resources for beneficial reuse	• Preparation for clearing activity • Completion of clearing activity	• Implement the biodiversity resource salvage plan (**Appendix B**). • Review the efficacy of the biodiversity resource salvage plan at the conclusion of each planned clearing activity. • Adapt the biodiversity resource salvage plan to improve efficacy.	• Pre-clearing survey • Biodiversity Monitoring Program • Internal reviews	Environment Team
Control weeds					
SSD23419456 B70 (f)(iv)	Control weeds, avoid and mitigate the spread of pest plants	• 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 as required. • 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. • Weed-free fill would be used for on-site earthwork. • 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 • Internal reviews	Health and Safety team and Environment Team
Control pest animals					
SSD23419456 B70 (f)(v)	Control feral pests	• Ongoing management measure (for the life of the Mine) • Annual Review • New feral pest identified	• Carry out the pest animal control program across the Site (**Appendix D**). • Review the efficacy of the pest animal control program as required. • Adapt the pest animal control program to improve efficacy where necessary. • All food scraps and rubbish are to be appropriately disposed of in sealed receptacles to prevent providing forage habitats for foxes, rats, dogs, and cats.	• Biodiversity Monitoring Program • Internal reviews	Environment Team
Reduce the risk of disease					
EIS Appendix T	Reduce the risk of disease spreading to the Site	• Ongoing management measure (for the life of the Mine)	• Pathogens such as *Phytophthora cinnamomi* will be managed by implementing precaution such as washing down equipment prior to commencing the Project.	• Internal reviews (inductions)	Environment Team

Source	Objective	When Required/ Timing	Management Measures	Monitoring Program	Responsibility
Biodiversity		• Annual Review	• Handling of frogs encountered during construction will be done only if necessary, and always in accordance with safe frog handling procedures to prevent the spread of Chytridiomycosis (Amphibian Chytrid Fungus Disease).		
	Reduce the impact of disease on Site	• Disease outbreak identified at the Site	• Report pollution and environmental incidents on Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au. • Internal investigation. • Compliance reporting. • Remedial action (enforceable undertaking).	• Biodiversity Monitoring Program	Environment Team
EIS Appendix T Biodiversity	Reduce impacts to hydrological features and processes that support threatened species	• Construction and earth work	• Follow relevant legislation guidelines regarding impact to waterways, assess whether a controlled activity approval is required under the *Water Management Act 2000* for new activities. • A water management system will be implemented to prevent release of contaminated water, manage sediment affected water, divert clean water around mining activities and infrastructure. • Identify and mitigate potential risks to water quality (e.g. sediment from construction, importation of clean fill). Rehabilitation of waterways will occur post mining. • Construction to occur during dry periods only. • Do not refuel, store, or decant chemicals within 50 m of a waterway. • Stockpile and compound sites would be located using the following criteria: ▪ At least 40 m away from the nearest waterway. ▪ On relatively level ground. ▪ Outside the one in 10-year Average Recurrence Interval (ARI).	• Internal reviews • Biodiversity Monitoring Program	Environment Team
EIS Appendix T Biodiversity	Erosion and sediment control to protect vegetation and fauna habitat	• Construction and earth work	• Provide sediment and erosion controls to manage exposed soil surfaces and stockpiles to prevent sediment discharge into vegetation and fauna habitat. • Clearly identify stockpile and storage locations and provide erosion and sediment controls around stockpiles. • Stockpiling materials and equipment and parking vehicles would be avoided within the dripline (extent of foliage cover) of any tree.	• Internal reviews • Biodiversity Monitoring Program • Water Management Plan	Environment Team
Reduce the risk of hazardous substances					
Consultation with DCCEEW	Hazardous substances including tailings, chemicals, heavy metals and dust do not negatively impact a viable local population of a threatened species	• Ongoing management measure (for the life of the Mine) • Any impact to a threatened species is identified	• Monitor cyanide concentrations at the TSF when CN is in use and plant is discharging (as per EPL). • Where possible maintain minimal decant water on the TSF so as not to attract fauna. • Monitor the TSF regularly for impacted fauna. • Tailings are contained within a structure that adequately mitigates risk of tailings and associated contaminants being released to the environment.	• Internal reviews • Biodiversity Monitoring Program	Environment Team

4.3.2. Green Zone management measures

A summary of biodiversity management measures to be taken in the 'Green Zone' are outlined in **Table 11**.

Table 11: Biodiversity Management Measures for the Green Zone

Source	Objective	When Required / Timing	Management Measures	Monitoring Program	Responsibility
Protect fauna habitat resources					
SSD 23419456 B70 (f)(i)	Minimise impacts on fauna habitat resources	• Proposal to clear vegetation referred to the Aurelia Environment Department (see Green Rules)	• Clearing of vegetation will not occur outside of the ADA. • Identify appropriate approval pathway for proposed activities outside the ADA, prepare a project modification if necessary.	• Pre-clearance survey • Biodiversity Monitoring Program • Internal reviews	Environment Team, Health and Safety team
		• Unauthorised clearing of vegetation identified (outside the ADA) • Earthworks, cultivation, off-road/track vehicles, or other ground surface disturbance identified outside of the ADA • Dumping of rubbish, waste, and hazardous materials is identified outside of the ADA	• Periodically review the boundary of the Green Zone for incursions - especially during active vegetation clearing within the ADA. • Internal investigation. • Compliance reporting. • Remedial action (enforceable undertaking).	• Clearance monitoring • Biodiversity Monitoring Program • Internal reviews	
		• Unassessed / heightened bush fire risk	• Review the Cobar Bush Fire Risk Management Plan (Cobar Bush Fire Management Committee, 2021) – particularly section 2.3 *"Identifying Bush Fire Risk"*. • Identify bush fire risks on the Site. • Consult with NSW Rural Fire Service and / or the Cobar Bush Fire Management Committee to identify and implement measures to manage bush fire risk. • Treat identified risks to minimise likelihood of uncontrolled fire.	• Biodiversity Monitoring Program • Internal reviews	
Protect vegetation					
SSD 23419456 B70 (f)(ii)	Protect vegetation and fauna habitat outside of the ADAs	• Proposal to clear vegetation referred to the Aurelia Environment Department (see Green Rules)	• Clearing of vegetation will not occur outside of the ADA. • Identify appropriate approval pathway for proposed activities outside the ADA, prepare a project modification if necessary.	• Pre-clearance survey • Biodiversity Monitoring Program • Internal reviews	Environment Team, Health and Safety team
		• Unauthorised clearing of vegetation identified (outside the ADA) • Earthworks, cultivation, off-road/track vehicles, or other ground surface disturbance identified outside of the ADA • Dumping of rubbish, waste, and hazardous materials is identified outside of the ADA	• Periodically review the boundary of the Green Zone for incursions - especially during active vegetation clearing within the ADA. • Internal investigation. • Compliance reporting. • Remedial action (enforceable undertaking).	• Clearance monitoring • Biodiversity Monitoring Program • Internal reviews	
		• Unassessed / heightened bush fire risk	• Review the Cobar Bush Fire Risk Management Plan (Cobar Bush Fire Management Committee, 2021) – particularly section 2.3 *"Identifying Bush Fire Risk"*. • Identify bush fire risks on the Site. • Consult with NSW Rural Fire Service and / or the Cobar Bush Fire Management Committee to identify and implement measures to manage bush fire risk. • Treat identified risks to minimise likelihood of uncontrolled fire.	• Biodiversity Monitoring Program • Internal reviews	

Source	Objective	When Required / Timing	Management Measures	Monitoring Program	Responsibility
SSD 23419456 B70 (f)(vi)	Control access to vegetated or revegetated areas	• Inadequate fencing identified • Unauthorised access detected	• Ensure that the Green Zone is appropriately fenced (see **Plates 1** and **2** of **Appendix C**) and signs are erected to notify staff that avoided areas are an environmental protection zone / no-go zone. • Repair fencing if necessary. • Ensure gates are locked. • Ensure signs are clearly visible at access points. • Inform NSW Police of unauthorised access, illegal hunting, illegal dumping, or other trespass.	• Internal reviews • Biodiversity Monitoring Program	Environment Team
Manage the collection and propagation of seed					
SSD 23419456 B70 (f)(iii)	Manage the collection and propagation of seed from the local area	• Prior to commencement of clearing • Following significant flowering events in the Green Zone	• Implement the biodiversity resource salvage plan (**Appendix B**). • Review the efficacy of the biodiversity resource salvage plan at the conclusion of each planned salvage. • Adapt the biodiversity resource salvage plan to improve efficacy where necessary.	• Pre-clearing survey • Biodiversity Monitoring Program • Internal reviews	Environment Team
Control weeds					
SSD 23419456 B70 (f)(iv)	Control weeds, avoid and mitigate the spread of pest plants	• 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 as required. • Adapt the pest plant control program to improve efficacy where necessary.	• Biodiversity Monitoring Program • Internal reviews	Environment Team
Control pest animals					
SSD 23419456 B70 (f)(v)	Control feral pests	• Ongoing management measure (for the life of the Mine) • Annual Review • New feral pest identified	• Carry out the pest animal control program across the Site (**Appendix D**). • Review the efficacy of the pest animal control program as required. • Adapt the pest animal control program to improve efficacy where necessary.	• Biodiversity Monitoring Program • Internal reviews	Environment Team

5. BIODIVERSITY MONITORING PROGRAM

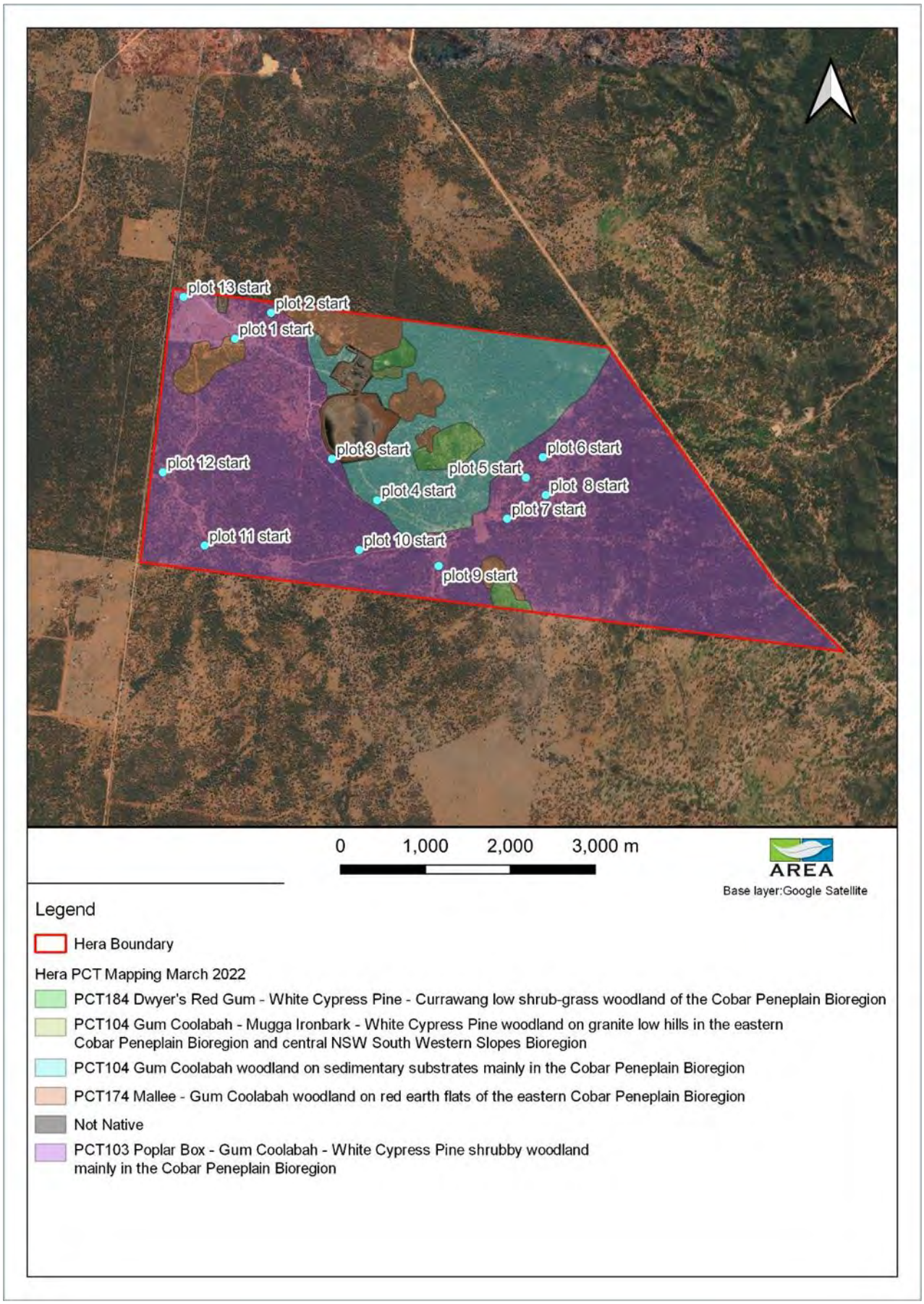
Biodiversity monitoring will be undertaken to determine compliance with the SSD23419456 criteria. The monitoring will be done by independent, suitably qualified, and experienced personnel.

Biodiversity values have been assessed and monitored at the Hera Mine Site between 2010-2023. Relevant results of biodiversity monitoring will be incorporated where appropriate into the analysis of future biodiversity monitoring events.

Attempts have been made, where appropriate, to retain existing biodiversity monitoring points at the Hera Mine Site. New monitoring points are to be established in the Green Zone around the Federation Mine. The existing monitoring points for Hera Mine are shown in Error! Reference source not found. below.

Refer to Section 8 of the Rehabilitation Management Plan for the rehabilitation monitoring program.

Figure 14: Existing Hera Mine Ecological Monitoring Points for PCTs



5.1. Pre-Clearance 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 fauna habitat resources (**Table 12**).

Table 12: Pre-clearance Survey Method

Pre-clearance Survey	
Responsibility	Suitably qualified and experienced personnel (ecologist, professional wildlife catcher / spotter).
Method	Survey vegetation ahead of planned clearing and ensure: • The extent of planned clearing has been clearly, accurately appropriately demarcated. • 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. • When possible, avoid clearing during common breeding periods for threatened fauna (Spring) as described in **Appendix F**. • Where required, the tree is tapped by the dozer blade 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 spotter/catcher. • If animals are spotted the spotter/catcher advises the dozer 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 the 'Green Zone' 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.
Location	The Approved Disturbance Area.
Frequency	Immediately prior to, and during, planned vegetation removal.
Reporting	After clearing is complete, the ecologist will provide a post-clearing report detailing the results of surveys, fauna rescues, and any fauna injury. This report details: • The name and qualifications of the ecologist or wildlife carer 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,

Pre-clearance Survey	
	• May also include a recommendations section.
Is it required?	Condition B70 (e)(ii) requires Hera Resources to minimise impacts on fauna, including by undertaking pre-clearance surveys and translocation of threatened species as guided by the NSW Government's Translocation Operational Policy 2019 (as amended from time to time).

Refer to **Appendix B** for the Biodiversity Resource Salvage Plan.

Refer also to Section 6.2.1 of the Rehabilitation Management Plan for more information on management measures during the active mining phase.

5.2. 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 3.2.2** and (AREA, 2022)).

VI monitoring points are to be established following the first year of VI monitoring. The plots will be proximal to the High Traffic Biodiversity Management Zone, with paired control sites located further away in the Green Zone (see **Table 13** and **Table 14**) to assist in the identification of indirect, unanticipated, or cumulative impacts.

Table 13: Vegetation Integrity Monitoring

Vegetation Integrity Monitoring	
Responsibility	Accredited Assessor under the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020).
Method	Complete full floristic vegetation survey plots in accordance with the BAM.
Location	At each of the vegetation monitoring plots across the Site once established.
Frequency	Annually, in spring or early summer (September – December).
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 B70 (f)(ii) requires Hera Resources to protect vegetation and fauna habitat outside of the ADA. It is necessary to monitor the protected vegetation and fauna habitat outside of the ADA to ensure that its condition remains stable or is improving with management.

Table 14: Vegetation Integrity Monitoring Points (GDA2020 zone55)

Plot Number	Vegetation Zone	Easting	Northing	Orientation
1	PCT103 (dense) proximal	TBD	TBD	
2	PCT103 (dense) control	TBD	TBD	
3	PCT103 (open) proximal	TBD	TBD	
4	PCT103 (open) control	TBD	TBD	
5	PCT104 proximal	TBD	TBD	
6	PCT104 control	TBD	TBD	

7	PCT174 proximal	TBD	TBD
8	PCT174 control	TBD	TBD
9	PCT176 proximal	TBD	TBD
10	PCT176 control	TBD	TBD
11	PCT180 proximal	TBD	TBD
12	PCT180 control	TBD	TBD
13	PCT184 proximal	TBD	TBD
14	PCT184 control	TBD	TBD
15	PCT258 proximal	TBD	TBD
16	PCT258 control	TBD	TBD

5.2.1. 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 15** provides the procedure for threatened flora monitoring.

Table 15: Threatened Flora Monitoring

Threatened Flora Monitoring	
Responsibility	An Accredited Assessor under the BAM.
Method	• Review the list of threatened species known or predicted to occur within the Cobar Peneplain - Nymagee Downs IBRA sub-region and identify whether the species has been previously recorded on the Site. • Monitor for occurrences of threatened flora. Appendix G contains the Unexpected Finds Procedure.
Location	• At each of the vegetation monitoring plots across the Site once established. • At the location of any known threatened flora population identified on the Site.
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).
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 B70 (f)(ii) requires Hera Resources to protect vegetation and fauna habitat outside of the ADA. It is necessary to monitor the protected vegetation and fauna habitat outside of the ADA to ensure that its condition remains stable or is improving with management. Threatened flora presence is a strong indicator of improvement.

5.2.2. Pest plants

Under the *Biosecurity Act 2015*, Hera Resources has a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risks they encounter. **Table 16** describes the methods to maintain continuous vigilance for pest plants and monitor the results of management actions.

Table 16: Pest Plant Monitoring

Pest Plant Monitoring	Continuous Vigilance	Annual Monitoring
Responsibility	Environment Team	Accredited Assessor under the BAM.
Method	• Survey for the weed species detailed in **Appendix D**. • Maintain a spatial register of known weed infestations. • Maintain a register of weed management actions.	• Survey for the weed species detailed in **Appendix D**. • Access the register of known weed infestations. • Access the register of weed management actions.
Location	• Across the Site, with a particular focus on the High Traffic Zone. • At any identified pest plant infestations which are targeted for control actions.	• At each of the vegetation monitoring plots across the Site once established. • At locations recorded as infestations on the weed management map.
Frequency	• Undertake regular weed survey across the High Traffic Zone. • Undertake seasonal (every three months) survey across the Green Zone.	Annually, in spring or early summer (September – December).
Reporting	The Environmental Superintendent 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 B70(f)(iv) 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 the Development Consent SSD 23419456.	

5.3. Fauna Monitoring

Development Consent SSD 23419456 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.

5.3.1. Threatened species

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 17** provides appropriate fauna monitoring activities.

Table 17: Threatened Fauna Monitoring

Threatened Fauna Monitoring	
Responsibility	Accredited Assessor under the BAM.
Method	• Review the list of threatened species known or predicted to occur within the Cobar Peneplain - Nymagee Downs IBRA sub-region and identify whether the species has been previously recorded on the Site. • Targeted survey for presence of threatened fauna.
Location	• Threatened fauna survey transects to established across the Site. • Threatened fauna monitoring locations to be established.

Threatened Fauna Monitoring	
Frequency	Annually, in spring or early summer (September – December).
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 B70 (f)(i) and (ii) requires Hera Resources to protect fauna habitat outside of the ADA. It is necessary to monitor the protected fauna habitat outside of the ADA to ensure that its condition remains stable or is improving with management. Threatened fauna presence is a strong indicator of improvement.

5.3.2. 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 18** describes the methods to maintain continuous vigilance for pest animals and monitor the results of management actions.

Table 18: Pest Animal Monitoring

Pest Animal Monitoring	Continuous Vigilance	Annual Monitoring
Responsibility	Environmental Superintendent	Accredited Assessor under the BAM.
Method	• Survey for the pest animal species detailed in **Appendix C**. • Maintain a record of pest animal sightings. • Maintain a register of pest animal management actions.	• Survey for the pest animal species detailed in **Appendix C**. • Access the records of pest animal sightings. • Access the register of pest animal management actions.
Location	• Across the Site, with a particular focus on the Green Zone. • At any identified pest animal habitat locations which are targeted for control actions (i.e. rabbit warrens).	• Across the Site, with a particular focus on the Green Zone. • At any identified pest animal habitat locations which are targeted for control actions (i.e. rabbit warrens).
Frequency	Undertake quarterly pest animal inspections.	Annually, nocturnal survey in spring or early summer (September – December).
Reporting	The Environmental Superintendent 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 new weed infestations.
Is it required?	Condition B70(f)(iv) 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 the Development Consent SSD 23419456.	

6. CONTINGENCY PLAN

6.1. Managing Uncertainty

The contingency plan 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 contingency plan. These strategies adhere to the following guiding principles:

- Defining success against specific and measurable indicators.
- Obtaining the **best available evidence**, that is –
  - Contemporary
  - Verifiable
  - Objective
  - Relevant to the conservation outcome, and
  - Representative of the sample population.

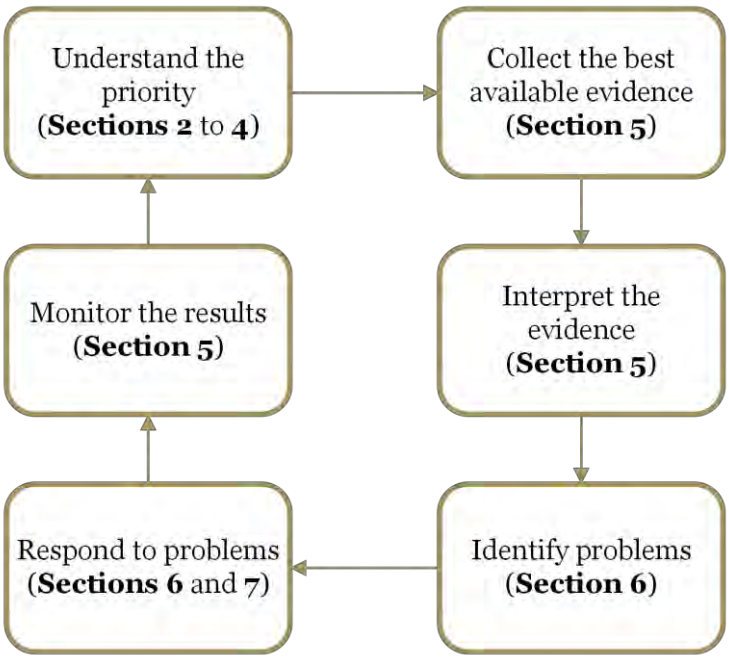
Ensuring timely evaluation of the evidence informs adaptive management, decision making, and continual improvement in implementation.

Refer to Section 7 of the Rehabilitation Management Plan for the Rehabilitation Zone quality assurance process.

6.1.1. 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:



6.2. Key Uncertainties

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

1. Knowledge gaps in scientific understanding and responding to new knowledge
2. Assumptions made in assessing potential impacts and benefits
3. How changes to government legislation, policies, plans, and advice is to be accounted for
4. Effectiveness of biodiversity management measures to achieve the outcomes set in the BioMP, and
5. Capacity of the proponent to ensure the BioMP is implemented.

Unpredicted biodiversity outcomes may include:

- Heavy metal or other hazardous chemical uptake by plants and animals, followed by transfer and associated harm to threatened fauna species,
- Significant impacts to threatened fauna species associated with light pollution, blasting, vibration, and noise; or,
- Introduction of a disease or pathogen to the region via imported machinery or equipment.

Where unpredicted impacts are identified, mitigation measures would be implemented. The corrective actions to be undertaken by the Site in the event of unpredicted biodiversity impacts are described in **Section 6.3** (unexpected impacts to biodiversity).

6.3. Trigger Action Response Plan

The Trigger Action Response Plan (TARP) defines the minimum set of corrective actions that the Site must implement in response to unpredicted impacts or abnormal conditions (triggers). The trigger levels are determined based on regulatory requirements, previous monitoring, and best practice management. The TARP is displayed in **Table 19**.

Section 10 of the Rehabilitation Management Plan contains the Rehabilitation and Closure TARP which should be referred to for management of the Rehabilitation Zone.

Table 19: Trigger Action Response Plan

Key Element and Source	Trigger / Response	Condition Green	Condition Orange	Condition Red	Monitoring and Verification Method	Responsibility
Competency based induction EIS Appendix T Biodiversity	Trigger	All staff are inducted to Aurelia's Green Rules and the obligations imposed by the consent SSD 23419456, and management plans created under that consent.	Staff and contractors are working on the Site without being appropriately inducted.	N/A	Administrative audit	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Suspend un-inducted staff from active duty until they have completed Aurelia's competency-based Site induction.	N/A		
Clearing native vegetation SSD 23419456 B70 (e)(i)	Trigger	Monitoring indicated that all native vegetation clearing occurs within the ADA.	Monitoring indicates minor / technical non-compliance within the margin of error for systems used (+/- 5 metres from boundary of ADA).	Major non-compliance consisting of significant clearing (>5 ha) of native vegetation outside of the ADA	Pre-clearing survey	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Review adequacy of systems and processes to ensure best practice. AND Consider salvage and / or restoration of habitat values where necessary.	Salvage any fauna habitat values cleared in accordance with the Biodiversity Resource Salvage Plan (Appendix B). AND Remediate any unauthorised harm outside the ADA. AND Complete incident investigation to determine the cause of the exceedance. AND Review effectiveness of mitigation measures. AND Modify operations if applicable. AND Notify relevant government agencies and impacted landowners in accordance with the procedure in the Management Plan. AND Consider whether a review of the Management Plan is required.		
Minimise clearing SSD 23419456 B70 (e)(i)	Trigger	The boundary of every clearing area has been surveyed and clearly demarcated prior to each approved clearing event.	Vegetation clearing commences without clear physical demarcation of the clearing area.	N/A	Pre-clearing survey	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Stop vegetation clearing activities. AND Survey and clearly demarcate the boundary of clearing area. AND Ensure clearing area has been adequately assessed by pre-clearing survey.	N/A		
Minimise impacts to fauna SSD 23419456 B70 (e)(ii)	Trigger	Every clearing area is assessed by pre-clearing survey within 24 hours of each approved clearing event. Active breeding habitat is not disturbed by clearing activities.	Vegetation clearing commences without signed pre-clearing survey clearance certificate.	N/A	Pre-clearing survey	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Stop vegetation clearing activities. AND Ensure clearing area has been adequately assessed by pre-clearing survey. AND Review clearing procedure and identify cause of trigger.	N/A		
Uncontrolled fire SSD23419456 B70 (f)(ii)	Trigger	Bush fire risks are identified and appropriately managed on the Site via implementation of a bushfire management plan. No uncontrolled fire occurs.	Bush fire risks are identified and appropriately managed on Site in accordance with a bushfire management plan. An uncontrolled fire originates outside of the Site boundary and spreads to the native vegetation on Site.	Uncontrolled fire breaks out on Site. AND Bush fire risks have not been identified and appropriately managed.	WHS monitoring Biodiversity Monitoring Program	Environment Superintendent and HSEC Manager
	Response	No response required. Continue to review, identify, and manage bush fire risks.	Call the NSW Rural Fire Service. AND Take all necessary steps to protect human life. AND	Complete incident investigation to determine the cause of the uncontrolled fire. AND Review effectiveness of mitigation measures. AND		

Key Element and Source	Trigger / Response	Condition Green	Condition Orange	Condition Red	Monitoring and Verification Method	Responsibility
			Minimise the impact of the fire to native biodiversity where possible.	Modify operations if applicable. AND Notify relevant government agencies and impacted landowners in accordance with the bushfire management plan and other applicable WHS procedures. AND Consider whether a review of the existing procedures or this BioMP is required.		
Unauthorised access to Avoided Zone SSD23419456 B70 (f)(ii)	Trigger	Green Zone is appropriately fenced, access gates are locked, signs are clearly visible indicating that it is an environmental protection zone. No unauthorised access is detected.	Green Zone is appropriately fenced, access gates are locked, signs are clearly visible indicating that it is an environmental protection zone. Unauthorised access is detected.	Green Zone is not appropriately fenced, access gates are not locked, signs are not clearly visible indicating that it is an environmental protection zone. AND / OR Unauthorised access is detected causing harm to threatened species or native vegetation by illegal hunting, dumping of hazardous waste / materials, firewood collection, biosecurity risks / violations.	Biodiversity Monitoring Program	Environment Superintendent
	Response	No response required. Continue to monitor fence condition and access to the Site.	Site will review security measures and notify NSW Police, if necessary.	Report pollution and environmental incidents on Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au. Inform NSW Police of unauthorised access, illegal hunting, illegal dumping, or other trespass. Undertake steps to rehabilitate / remediate unauthorised impacts to the Green Zone.		
Pest animals SSD23419456 B70 (f)(v)	Trigger	Pest animal incidental sightings are infrequent, and biodiversity monitoring indicates that pest animals are not causing a significant impact to biodiversity on the Site.	Pest animals are observed during spotlighting transects or pest animal monitoring surveys, and observations (incl. new populations i.e. kittens) are in the High Traffic Zone (i.e. around rarely used buildings / tire storage). Biodiversity monitoring indicates pest animals are having a moderate impact on biodiversity on the Site.	Pest animal sightings are common, biodiversity monitoring indicates pest animals are having a significant impact on biodiversity and pest animal control measures are not being effectively implemented on the Site.	Pest animal monitoring Biodiversity Monitoring Program Pest Animal Control Program (Appendix C)	Environment Superintendent
	Response	Continue to monitor for the presence and potential impact of pest animals	Log the sighting on the Pest Animal Map, include estimate of number of individuals and date. AND Commence pest animal control for target species in accordance with the Pest Animal Control Program (Appendix C). AND Continue to monitor the results of implementing the pest animal control program.	Log the sighting on the Pest Animal Map, include estimate of number of individuals and date. AND Commence pest animal control for target species in accordance with the Pest Animal Control Program (Appendix C). Activities may include: Commence rabbit warren destruction at active locations, OR Target locations where cats have been observed for Trapping, OR Maintain / renew lethal baiting stations at strategic locations across the Site, OR Conduct trap and sale operations until observations of feral goats cease, OR Maintain boundary fencing around the Site. AND Continue to monitor the results of implementing the Pest Animal Control Program. AND Revise the Pest Animal Control Program (Appendix C) for efficacy and ensure that current best practice methods of control are being implemented on Site.		
Pest plants SSD23419456 B70 (f)(iv)	Trigger	Incidental sightings of weeds are infrequent and biodiversity monitoring indicates that pest plants are not causing a significant impact to biodiversity on the Site.	A pest plant infestation is identified exceeding 5% groundcover across the Site.	Weed sightings are common, biodiversity monitoring indicates pest plants are having a significant impact on biodiversity and pest plant control measures are not being effectively implemented on the Site.	Pest plant monitoring Biodiversity Monitoring Program	Environment Superintendent
	Response	Continue to monitor for the presence and potential impact of pest plants.	Update the weed management map. AND Implement weed management strategies appropriate for the species of plant identified, in accordance with the Pest Plant Control Program (Appendix D). AND Continue to monitor the results of implementing the pest plant control program.	Implement weed management strategies appropriate for the species of plant identified, in accordance with the Pest Plant Control Program (Appendix D). AND Continue to monitor the results of implementing the pest plant control program. AND Revise the Pest Plant Control Program (Appendix D) for efficacy and ensure that current best practice methods of control are being implemented on Site.		

Key Element and Source	Trigger / Response	Condition Green	Condition Orange	Condition Red	Monitoring and Verification Method	Responsibility
Control Weeds SSD23419456 B70 (f)(iv)	Trigger	Hygiene protocols are always implemented for machinery operating on Site.	Machinery is introduced to the Site without being washed down (soil, vegetative material is adhered to the machine). Machinery moves from a weed infested area to an area not infested with pest plants, without being washed down.	N/A	Internal reviews	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Halt operation of the machine with foreign material. AND Wash down the machine and inspect for thorough removal of soil / foreign plant material. AND Resume operations with the clean machine.	N/A		
Disease outbreak impacts biodiversity EIS Appendix T Biodiversity	Trigger	No detection of disease outbreaks on Site.	Disease outbreak identified at the Site.	N/A	Biodiversity Monitoring Program	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Report pollution and environmental incidents on Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au. Facilitate investigation into the cause, spread, location and appropriate response to the disease. Implement any recommendations that arise from the investigation into the disease.	N/A		
Unexpected impacts to biodiversity EIS Appendix T Biodiversity	Trigger	Monitoring does not identify unexpected harm to biodiversity values on the Site.	Monitoring identifies minor unexpected harm to biodiversity values on the Site.	Monitoring identifies sudden and / or significant harm to biodiversity values on the Site.	Biodiversity Monitoring Program	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Identify the source of the harm to biodiversity values. AND Generate an adaptive response protocol in consultation with the NSW Department of Planning and Environment. AND Continue to monitor biodiversity values in accordance with the biodiversity monitoring program.	Identify the source of the harm to biodiversity values. Take immediate action to halt further harm. AND Generate an adaptive response protocol in consultation with the NSW Department of Planning and Environment. AND Continue to monitor biodiversity values in accordance with the biodiversity monitoring program.		
Protect hydrological features and processes that support threatened species EIS Appendix T Biodiversity	Trigger	No harm / pollution to natural hydrological features and processes that support threatened species	Any earth work / pollution is identified in any natural hydrological feature on Site or immediately downstream of Site.	N/A	Biodiversity Monitoring Program	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Stop work. Implement measures to prevent any further pollution / sedimentation of natural hydrological features. Report pollution and environmental incidents on Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au. Remediate any harm to the natural hydrological features.	N/A		
Reduce the risk of hazardous substances Consultation with DCCEEW	Trigger	No harm to threatened species. No visible pollution of the broader environment by hazardous substances.	Any leak of hazardous substances from the TSF, or associated infrastructure. Any fauna impacts associated with chemical / residue storage and tailings.	N/A	Biodiversity Monitoring Program	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Implement measures to prevent any further pollution / contamination of the environment. Report pollution and environmental incidents on Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au. Review measures available to prevent threatened species from accessing hazardous substances, such as reducing water levels at the TSF. Consult with the NSW environment agency regarding the adequacy of measures to prevent threatened species from accessing hazardous substances.	N/A		
Minimise impacts to fauna: Fauna strike SSD 23419456 B70 (e)(ii)	Trigger	Fewer than four incidents of fauna strike per year on the Site.	Greater than four incidents of fauna strike are recorded on the Site in any given year.	N/A	Internal reviews Inductions	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Review the appropriateness of speed limits across the Site. Enforce speed limits across the Site. Investigate whether additional measures are necessary to prevent further fauna strikes.	N/A		

Key Element and Source	Trigger / Response	Condition Green	Condition Orange	Condition Red	Monitoring and Verification Method	Responsibility
Minimise impacts to fauna: Wildlife handling SSD 23419456 B70 (e)(ii) EIS Appendix T Biodiversity	Trigger	Wildlife, especially snakes, are only handled when necessary – by appropriately experienced and qualified personnel.	Wildlife is present in the High Traffic Zone and causing disruption, requiring removal. General staff encounter wildlife / snake and attempt to handle fauna without appropriate training.	N/A	When required.	Environment Superintendent
	Response	No response required.	Direct staff to stop handling wildlife. AND Follow the Fauna Handling and Rescue Procedure (Appendix E).	N/A		
Minimise impacts to fauna: Noise, light, and vibration SSD 23419456 B70 (e)(ii) EIS Appendix T Biodiversity	Trigger	Impacts associated with noise, light, and vibration do not reduce the viability of local populations of threatened species.	Lights illuminate any part of the 'Green Zone'.	Noise / vibration levels exceed criteria limits in SSD24319456.	If triggered, relevant exceedance response procedure.	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Adjust lighting so that it is limited to the High Traffic Zone.	Refer to the relevant Environmental Management Plan (Noise Management Plan and Blast Management Plan) to respond to exceedance. AND Adjust operations to fall below the noise / vibration criteria limits.		
Maximise salvage of resources SSD23419456 B70 (e)(iii)	Trigger	Viable biodiversity resources are salvaged from the approved disturbance areas for beneficial reuse in the 'Green Zone'.	Clearing of native vegetation is occurring without adherence to the Biodiversity Resource Salvage Plan (Appendix B).	N/A	Pre-clearing survey	Environment Superintendent
	Response	No response required. Continue Biodiversity Monitoring Program.	Stop work and adjust operations to incorporate actions in accordance with the Biodiversity Resource Salvage Plan.	N/A		

7. INCIDENT AND COMPLAINT MANAGEMENT

7.1. Incident and Non-Compliance Protocol

Hera Resources will manage any biodiversity incident or non-compliance at Site in accordance with the incident and non-compliance protocols found in the EMS. In summary Hera Resources will, at the earliest opportunity:

- Take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur.
- 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.
- Implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.
- Submit an incident report within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary.

As outlined in the EMS, Hera Resources will implement incident and non-compliance protocols found in the requirements of Conditions C8 and C9 of SSD 24319456. The incident and non-compliance notifications under these conditions include:

- Incident Notification provided to the Planning Secretary in writing in the Major Projects Portal immediately after becoming aware of the incident.
- Non-compliance notification will be provided to the Planning Secretary in writing in the Major Projects Portal within seven days after Hera Resources becomes aware of the non-compliance. It should be noted that a non-compliance already notified as an incident does not need to also be notified as a non-compliance.

As per item 2 of Appendix 6 of SSD 24319456, written notifications will include the following information:

a. identify the development and application number;
b. provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
c. identify how the incident was detected
d. identify when the Applicant became aware of the incident
e. identify any actual or potential non-compliance with conditions of consent
f. describe what immediate steps were taken in relation to the incident
g. identify further action(s) that will be taken in relation to the incident, and
h. identify a project contact for further communication regarding the incident.

In the event of an incident, and following the incident notification, Hera Resources will prepare an incident report and provide it to the Planning Secretary and any relevant public authorities as determined by the Planning Secretary. Hera Resources will provide the incident report within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary.

As per item 4 of Appendix 6 of SSD 24319456, incident reports will include:

a. a summary of the incident
b. outcomes of an incident investigation, including identification of the cause of the incident
c. details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence, and
d. details of any communication with other stakeholders regarding the incident.

In the case of an environmental emergency that causes or has potential to cause environmental harm (as per the Protection of Environment Operations Act 1997 (POEO Act)) the Pollution Incident Response Management Plan (PIRMP) will be implemented.

In summary, following a non-compliance, Hera Resources will:

- Notify the Planning Secretary via the Major Project website within seven days of becoming aware of the non-compliance.
- Take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur
- Consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Planning Secretary within seven days describing those options and any preferred remediation measures or other course of action
- Implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.

Following an incident, Hera Resources will:

- Notify the Planning Secretary via the Major Project website immediately after becoming aware of the incident.
- Take all reasonable and feasible measures to ensure that the incident ceases and does not recur
- Consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Planning Secretary within 30 days describing those options and the required details of consent Appendix 6 item 4 (see above).

Hera Resources will maintain records of any environmental incidents or non-compliance, including any actions undertaken, for the life of the Site.

7.2. Complaint Management

The Environmental Management Strategy (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 presented in **Table 20.**

Table 20: Contact Details for Complaints

Communication Method	Details	Availability
Email	Hera.community@aureliametals.com.au	24/7
Telephone	1800 437 264	24/7

Following receipt of any biodiversity related complaint, Hera Resources would implement the following procedure:

1. Any complaints submitted through the complaints mechanism or at community forums (e.g. CCC) are escalated to the Environment Team and added to the complaints register. The Environment Team will determine, and add to the register, the following details:

    - Details of the complaint (date, time, details, complainants contact details).
    - Which relevant activities occurred during the complaint period to investigate the source of the complaint.
    - Whether the complaint was a result of non-compliant activities or an incident as defined in the consent.
    - What corrective or preventative actions are required to avoid the complaint recurring.
    - When corrective or preventative actions need to take place.

    Hera Resources will notify the complainant that the complaint was received and is being investigated within 2 days of receiving the complaint.

2. If relevant, monitoring data for the period will be reviewed to assist in determining the source of the complaint. The complainant will then be contacted to discuss and attempt to resolve the complaint.

3. In the event that the complaint is resolved via Step 2, no further action would be taken. If not resolved, then supplementary monitoring may be undertaken, if relevant to the complaint, within one month of the conclusion of Step 2.

4. Should the review of the monitoring data indicate that no non-compliance of the relevant criteria was identified, this will be communicated to the complainant. If monitoring data indicates that a non-compliance or incident has occurred, it will be communicated to the complainant and will be managed and reported in accordance with the protocol described in **Section 7.1.**

5. Corrective and preventative actions identified as a result of a complaint will be communicated to all relevant personnel through toolbox meetings and/or company memorandums. The relevant EMP will be reviewed and updated to reflect the findings of the complaint investigation if required.

If multiple complaints are received from the same individual(s) and Hera Resources can demonstrate compliance to the relevant criteria and previous efforts have been made to resolve their issues, then Hera Resources may limit their response to Step 1 and 2.

The complaints register will maintained by Hera Resources for the life of the Site and updated monthly. A record of any complaint will be kept for at least the life of the Site and the record will be produced to any authorised officer if requested as well as made available on the Aurelia Metals website. A summary of annual complaints received will be provided in the Annual Review and made available on the Aurelia website. The complaints register will include any response from the complainant.

8. REPORTING

Hera Resources will keep the community and relevant authorities informed of the Site's environmental performance by providing information outlined in Condition C15 on Aurelia's public website (www.aureliametals.com.au). The website will include the Environmental Impact Statement and subsequent Modifications for the Project which outline information on environmental impacts. Specific reporting requirements are outlined in the following sections.

8.1. Annual Reporting

Hera Resources is required to prepare an Annual Review each year in accordance with Condition C10, 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.*

8.2. 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.*

Hera Resources will report any incidents in accordance with the protocol described in the EMS, Condition C8 of SSD 23419456, and Appendix 6 of SSD 23419456.

Condition C8 states:

> *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 6.*

8.3. Non–Compliance Reporting

A non-compliance is defined in the consent as:

> *An occurrence, set of circumstances or development that is a breach of this consent.*

Hera Resources will report any incidents in accordance with the protocol described in the EMS and Condition C9 of SSD 23419456, and Appendix 6 of SSD 23419456.

Condition C9 states:

> *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.*

8.4. Independent Environmental Audit

Hera Resources will commission and provision for an Independent Environmental Audit in accordance with Conditions C12 and C13 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 C12 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.*

9. ROLES AND RESPONSIBILITIES

The roles and responsibilities for Hera Resources personnel in relation to this BioMP are listed in **Table 21**.

Table 21: Roles and Responsibilities

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 Approved Disturbance Area.
Mine Manager	• Responsible for ensuring all mining works are carried out in accordance with all relevant approvals and legislation. • Accountable for ensuring all employees in the respective areas are committed to and implement the requirements of the Site's environmental framework and associated plans. • Report any incidences or complaints immediately to the Environment Superintendent. • Ensure all plant and equipment is maintained and operated in a proper and efficient condition.
Environment Superintendent	• Ensure that the requirements of this BioMP are effectively implemented. • Ensure the results of all monitoring are recorded. • Ensure all internal and external reporting requirements are met. • Ensure all personnel undertaking works in relation to this management plan are trained and competent. • Update the BioMP as required. • Organise, review, and analyse all monitoring data. • Keep documented evidence of corrective actions triggered by this BioMP TARP.
All Personnel (Hera Resources / contractors / visitors)	• Adhere to the 'Green Rules'. • Report environmental incidents to the Environment and Community Superintendent.

10. 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:

- The boundary of the Approved Disturbance Area and the Green Zone – potential consequences of vegetation removal outside of the Approved Disturbance Area.
- Bush-fire prevention measures to be adhered to on the Site.
- Speed limits on Site.
- The 'Green Rules' as amended from time to time.
- Biosecurity management measures applicable to the Site, including vehicle and plant wash-down procedures, risks associated with importing soil from other regions.
- Prohibition of unauthorised handling of native fauna.

The Environment Superintendent and Environment Team shall be responsible for ensuring the appropriate biodiversity management training is included in the induction.

11. 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 C6 of SSD 23419456 which states that reviews must be conducted:

> *Within three months of:*
>
> *(a) The submission of an incident report under condition C8;*
>
> *(b) The submission of an Annual Review under condition C10;*
>
> *(c) The submission of an Independent Environmental Audit under condition C12; 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 of Schedule 2*
>
> *the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.*

As part of the review process Hera Resources 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.

In accordance with Condition B70 (d), this BioMP and Rehabilitation Strategy will be reviewed (and updated if required) simultaneously to ensure biodiversity management measures are consistent.

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

As per Condition B71 Aurelia Resources must not commence construction until the BioMP has been prepared and a copy has been provided to the Planning Secretary.

12. REFERENCES

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APPENDIX A
CONSULTATION

Department of Climate Change, Energy, the Environment and Water

Our ref:DOC24/89232
Your ref: SSD-24319456-PA-12, PAE-65927716

Alexandra Butt
Aurelia Metals
E-mail: office@aureliametals.com.au

Dear Alexandra

Hera and Federation Mine Biodiversity Management Plan (SSD 24319456-PA-12)

Thank you for your request via the NSW Planning Portal dated 15 December 2023 to the Biodiversity, Conservation and Science Directorate (BCS) of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) inviting comments on the draft Biodiversity Management Plan (BMP) for the Hera and Federation Mine sites. We apologise for the delay in responding.

We understand that this BMP has been drafted to meet the requirements of the Federation Mine consolidated consent, and will also replace the previously approved BMP for the Hera Mine. We have reviewed the draft BMP and focused our advice on matters that we consider would improve usability of the plan, the effectiveness of management actions and achievement of the desired outcomes for biodiversity values on the combined mine sites.

Our biodiversity recommendations are provided in **Attachment A** and detailed comments are provided in **Attachment B**.

If you have any questions about this advice, please do not hesitate to contact Erica Baigent, Senior Conservation Planning Officer, via erica.baigent@environment.nsw.gov.au or (02) 6883 5311

Yours sincerely

Calvin Houlison
Senior Team Leader Planning North West
Biodiversity, Conservation and Science Directorate

7 February 2024

Attachment A – BCS's Recommendations

Attachment B – BCS's Detailed Comments

Attachment C – BCS generic example for Biodiversity Management Plans

Attachment A

BCS's recommendations

Draft Biodiversity Management Plan – Federation and Hera Mines

ADA	Approved disturbance area
BAM	Biodiversity Assessment Method 2020
BDAR	Biodiversity development assessment report
BMP	Biodiversity management plan
EIS	Environmental impact statement
PCT	Plant community type
SMART	Specific, measurable, achievable, realistic, time-framed
TARP	Trigger, action, response plan
VI Score	Vegetation Integrity Score

Recommendations

Baseline data

1.1 Reference long-term monitoring data from the Hera Mine site within the BMP, and explain how this data will be utilised in ongoing management of impacts and biodiversity on the site, or justify the exclusion of that data.

1.2 Include within the BMP any existing weed mapping from the Hera Mine site.

1.3 Prioritise the establishment of monitoring points and collection of baseline data for all performance indicators/measures proposed in the BMP

1.4 Update the BMP to present all relevant baseline data and refine performance criteria/targets, triggers for corrective action and proposed management measures, and responses as appropriate.

Improving performance criteria, targets and triggers for corrective action

2.1 Ensure all performance criteria, completion criteria (where appropriate), any annual targets and trigger points for each domain:

a) meet the 'SMART' principles (specific, measurable, achievable, realistic, time-framed)

b) are drafted with consideration of current baseline conditions.

c) are supported by performance indicators/measures linked to suitable monitoring methods.

2.2 Review all performance criteria and trigger points to ensure they reflect the BMP objectives and will facilitate appropriate and timely management responses to keep performance on track.

2.3 Consider including the following text within the 'uncontrolled fire' trigger points in Table 18:

a) Condition orange – 'Bushfire risks are identified and managed on the site via implementation of [insert title of the Bushfire Management Plan for the site]' or similar.

b) Condition red - 'Bushfire risks have not been identified and managed via implementation of

3.1 Use consistent zone names throughout the BMP.

3.2 Review the wording of '+/-5m' within the 'condition orange' trigger associated with native vegetation clearing, which appears to capture impacts within the approved disturbance area (ADA) inadvertently.

3.3 Revise the 'condition red' trigger for native vegetation clearing in Table 18 to include clearing >5m beyond the ADA boundary.

3.4 Link specific control measures, or increased intensity of control measures, to each trigger point

3.5 Ensure trigger points and associated actions are consistent throughout the BMP and appendices.

Improving proposed management actions

4.1 Adequately detail all proposed mitigation measures within the BMP, with consideration of baseline conditions.

4.2 Include reference to the:

a) known breeding periods for threatened species recorded on the site

b) ground and shrub layer nesting species known to occur on the site

to encourage scheduling of clearing activities outside of those periods where possible, and flag these species for particular consideration by ecologists undertaking the pre-clearing surveys and habitat inspections during habitat removal.

4.3 In addition to the intent to avoid clearing during spring, also flag autumn as the optimal clearing window.

4.4 Revise the BMP to state that if threatened flora or fauna are encountered during pre-clearing surveys:

a) the applicability of the current NSW Translocation Operational Policy will be assessed on a case-by-case basis and a translocation proposal prepared if required.

b) where a translocation proposal for Department approval is not required, a species-specific tailored protocol for moving the species out of harm's way and into adjacent habitat should be developed, using the guiding principles for translocation in the Policy.

4.5 Ensure potential impacts of exclusion fencing on the movement and welfare of macropods and emus are considered, including:

a) how all macropods and emus will either be removed from the site prior to fence completion or how they will be humanely and sustainably managed within the fenced area

b) how fence design will minimise the risk of native fauna entanglement.

4.6 Note within the BMP that should a threatened flora species be identified on the site, the appropriateness of fencing the species/population will be considered based on its specific ecological requirements and provision made to manage biomass within the fenced area over time as necessary.

4.7 Demonstrate within the BMP how proposed management actions, monitoring and triggers address the NSW Department of Primary Industries standard operating procedure for rabbit warren ripping.

4.8 Consider inclusion of specific treatment methods for the target weed species recorded on the site, within Appendix D.

4.9 Expand the 'condition red' management actions addressing unauthorised access with harm to threatened species or native vegetation via illegal hunting, dumping of waste etc to include remediation of those impacts.

5.1 Provide the proposed biodiversity resource salvage plan at Appendix B of the BMP.

5.2 Ensure the BMP reflects all commitments made to mitigation measures in the environmental impact assessment.

5.3 Require salvage or restoration of habitat values in any instance of accidental clearing within a 5m buffer outside of the ADA and address this within the proposed Appendix B biodiversity resource salvage plan prior to finalisation of the BMP.

6.1 Identify any biodiversity risks associated with heavy metals or hazardous substances in the BMP and:

a) list the mitigation measures to be put in place to reduce those risks.

b) state how biodiversity impacts from these substances would be monitored and remedial action triggered.

c) reference any other management plans for the site that address the management of these substances, and where those plans can be found.

6.2 Outline the measures being implemented to limit the impact of dust, noise, vibration and artificial light, and refer to the specific plans where those impacts are addressed in more detail including where they can be found.

6.3 Include an unexpected finds procedure in the BMP specifying that:

a) BCS should be notified in the first instance if an unexpected find occurs.

b) Further advice should be sought from BCS if a threatened species that was not considered during the BAM assessment is detected on the site.

Clearly communicating an adequate monitoring program

7.1 Ensure the monitoring program addresses all performance indicators and will enable tracking of progress towards performance criteria, completion criteria and triggers for corrective action.

7.2 Identify within the BMP the location of all monitoring locations. Strong justification should be provided for any proposed discontinuation of existing monitoring locations on the Hera Mine site.

7.3 Clarify the intended frequency of monitoring known (mapped) weed infestations.

7.4 Clarify whether any increased intensity and frequency of monitoring will be undertaken in response to condition ‘orange’ or ‘red’.

7.5 Detail:

a) the monitoring methods to be employed for all pest species

b) whether specific pre-, during and post-control monitoring of goat movements, rabbit warrens, or evidence of cats, foxes and pigs will be undertaken as part of effective implementation of control measures and determining the success of those measures.

Attachment B

BCS's Detailed Comments

Draft Biodiversity Management Plan – Federation and Hera Mine

We understand that the Federation project will allow mining operations to transition from the Aurelia Metals Hera Mine to the Federation Mine (10km south of the Hera Mine). A single consolidated consent has now been approved (SSD 24319456 dated 2 March 2023) covering both the Hera Mine, Federation Mine, and connecting infrastructure ('the site') and authorising activities within the 'approved disturbance area' (ADA). The Hera Mine site will still be utilised for some processing, tailings storage and power generation for the Federation Mine, with some new infrastructure to be established.

Hence the 'Hera Mine and Federation Mine Biodiversity Management Plan' (draft dated 15 December 2023), is intended to fulfil the requirements of the consolidated consent and replace the previous biodiversity management plan (BMP) for the Hera Mine (revision 9 dated 28 October 2022[1]), approved by the former Department of Planning and Environment.

General comments

The following standard advice to proponents for BMPs and rehabilitation management plans in relation to drafting performance criteria, completion criteria and performance indicators/measures is provided:

- **Performance/completion criteria**:
    - **Performance criteria** (or 'performance targets') are the standards against which performance is to be measured. They are intended to express the standard/target to be achieved during the applicable planning period. The standards/targets should be set using baseline data where possible (see Issue 1 above). Performance is then measured in terms of progress towards the specified standard/target. Sometimes it is also appropriate to set annual targets for some management measures within a planning period, depending on the specific circumstances.
    - **Completion criteria** should express the ultimate target, for instance at the end of a specific stage of the project and the end of life of the project. Where a specific matter is only relevant to the initial timeframe of the BMP, it is appropriate to equate performance criteria with completion criteria.
    - As far as possible, performance and completion criteria should relate to actual on-ground outcomes/states (e.g. reduction of 'pest species x' abundance to a specified acceptable threat level), rather than the implementation of a specific management measure.
- **Performance indicators** (or 'performance measures') identify how achievement of performance criteria or targets will be measured. Performance indicators/measures should be quantitative (e.g. number/percentage decline in the abundance of 'pest species x' in each management domain).

We encourage presentation of remedial actions in the form of a Trigger Action Response Plan (TARP) where:

- the **trigger point** defines when the corrective (remedial) measure will be applied
- the **corrective action** is the management measure that will be applied if the trigger point is reached
- the **response** states the expected monitoring results/outcomes of the corrective action over a defined period.

We strongly encourages proponents to ensure that all performance/completion criteria, indicators/measures and trigger points for corrective action also conform to the 'SMART' principles ('specific, measurable, achievable, realistic, time-framed'). Monitoring methods should be suitably

[1] Aurelia Metals Ltd (2022) Biodiversity Management Plan. Revision 9 28 October 2022. https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=RFI-44913220%2120221031T010610.336%20GMT

targeted to the performance indicators and able to measure progress towards performance criteria, completion criteria and triggers for corrective action.

A generic example is provided in Attachment C to illustrate how the above advice could be implemented within a BMP.

Specific comments

1. Additional baseline data should be incorporated into the BMP prior to project commencement.

Condition C5(a) of the consolidated consent requires all management plans under the consent to include a summary of relevant background or baseline data. Baseline data facilitates:

- defining management domains and the targeting of appropriate management actions
- the setting of appropriate performance criteria, completion criteria and trigger points for corrective action that meet 'SMART' principles (specific, measurable, achievable, realistic, time framed)
- demonstrating the availability of suitable data against which performance will be measured and remedial actions triggered.

Table 5 presents baseline data in the form of the 2022 vegetation integrity scores for vegetation zones assessed for the Federation Mine environmental impact assessment, for six of the seven plant community types (PCTs) present on the broader site covered by the BMP. A list of 18 threatened species previously recorded on the site is also presented.

For ongoing monitoring the BMP states that *'vegetation zones (and the associated vegetation monitoring plots) will be developed following the first year of biodiversity monitoring'* (page 23, reiterated in Section 4.2). It is not clear why these zones and the associated monitoring plots have not already been established as part of the development of the BMP (see related comments in **Issue 7** below).

The previously approved BMP for the Hera Mine site included 13 ecological monitoring points for five PCTs, in place since 2013, and initially recording against biometric vegetation condition benchmarks and using the Biodiversity Assessment Method (BAM) form 2020 onwards. It appears that none of this previous monitoring data has been utilised in the revised BMP and there is no indication that monitoring at those 13 sites will continue.

Similarly, identification and mapping of existing infestations for eight of the 19 weed species listed within Appendix D is proposed, rather than having been completed and utilised in the development of the BMP. No baseline data related to other proposed performance indicators (native fauna abundance and incidence of pest species) is presented.

However, the previous Hera Mine BMP:

- indicates that a range of native and non-native fauna species data from 2010 to 2022 is available for that site that is not referred to in the current BMP.
- required annual mapping of weeds on the Hera site and development of a specific weed management plan. If the weed mapping has been undertaken and the weed management plan developed, that information should be referenced in the revised BMP.

Recommendations

1.1 Reference long-term monitoring data from the Hera Mine site within the BMP, and explain how this data will be utilised in ongoing management of impacts and biodiversity on the site, or justify the exclusion of that data.

1.2 Include within the BMP any existing weed mapping from the Hera Mine site.

1.3 Prioritise the establishment of monitoring points and collection of baseline data for all performance indicators/measures proposed in the BMP.

1.4 Update the BMP to present all relevant baseline data and refine performance criteria/targets, triggers for corrective action and proposed management measures, and responses as appropriate.

2. Some performance criteria, indicators and triggers for corrective action are not sufficiently specific and measurable, or not clearly communicated.

Condition C5 of consent SSD 24319456 sets out management plan content requirements including specifying limits, performance criteria, indicators/measures, contingency planning for reducing impacts below set criteria, associated measures and monitoring to be implemented and management and reporting of non-compliance or criteria exceedance.

The current draft Federation and Hera Mine BMP does not specifically refer to 'performance criteria', 'performance measures' or 'performance indicators', however our review has identified some such criteria, measures and indicators have been identified from the BMP. The components of a TARP are partially addressed within the BMP and the appendices for weed and pest animal management (see also **Issue 3** below).

There are instances where performance criteria, indicators/measures and triggers are not sufficiently clear, specific and measurable and as such, are unlikely to be effective. Some selected examples from the BMP are included below to illustrate this.

Examples from Table 18 of the BMP

Table 18 contains triggers and actions against condition states 'green', orange' and 'red'. Taken together the condition 'green' can also be somewhat interpreted as a performance criterion in this instance.

Condition/trigger 'orange' for clearing of native vegetation *'Monitoring indicates minor/technical non-compliance within the margin or effort for systems used (+/-5m from boundary of ADA)'* is an example of an adequately specific and measurable criteria/trigger with a clear performance indicator.

The three condition/trigger levels for pest animals and weeds are based on sightings being:

- *'infrequent…and not causing a significant impact to biodiversity'*
- *'not infrequent…and having a moderate impact on biodiversity'*
- *'common…and having a significant impact on biodiversity and…control measures are not being effectively implemented'*

Similarly, trigger points for *'unexpected impacts to biodiversity'* include references to *'minor unexpected harm'* and *'sudden and/or significant harm'* (see also **Issue 6** below). Trigger points related to 'uncontrolled fire' refer to bushfire risks being identified and whether they have been *'appropriately managed'* or not.

The terms 'infrequent', 'not infrequent', 'common', 'significant', 'moderate', 'minor' and 'appropriately managed' have not been quantified and are subject terms, making compliance or exceedance difficult. The levels of biodiversity impact in Table 18 also have not been related to specific performance measures/indicators, for example native fauna abundance and vegetation integrity scores as indicated in Appendices C and D.

In the case of the uncontrolled fire trigger points, the BMP should at least reference the applicable bushfire management plan for the site, against which each trigger level is measured.

Examples from Appendix C '*Pest Animal Control Plan*'

Appendix C provides objectives for each pest species, some of which in this case could be read as performance criteria/targets with combined performance measures. Rewording some of that text would improve clarity and usability of the document, for example:

- **Cats and foxes** - the objective is *'reduce damage to native fauna on site'*, with *'increased population size estimates'* of native fauna over 5 years. The monitoring section indicates that the indicator of 'population size' will be abundance.

  A consolidated performance criterion could instead read (for example): 'an increase in native fauna abundance from baseline levels over 5 years'.

- **Goats and rabbits** – the objective is *'minimise grazing impact on native vegetation communities'* to maximise ground cover, reduce erosion, increase resistance against weed invasion, increase VI score and increase fauna habitat.

Performance criteria could read (for example):

- ‘a reduction in erosion from baseline levels’ (with the performance measure for erosion to be specified),
- ‘an increase in the VI score from baseline levels’,
- ‘an increase in fauna habitat from baseline levels’ (with the performance measure for fauna habitat to be specified)
- ‘a reduction in the number of goats and rabbits observed during annual surveys’

- **Pigs** – the stated objectives include some actions to be implemented and a reduction in the population of feral pigs. Hence, performance criteria could read: ‘a reduction in the number of feral pigs from baseline levels’ with clarification of the applicable data to be used (see **Issue 7** below).

The existing monitoring data from the Hera Mine site may be useful in setting the desired level of pest animal control.

Examples from Appendix D *‘Pest Plant Control Program’*

Appendix D presents the weed control program. It appears the performance criterion is a reduction in the area of existing infestations from that mapped (once that mapping has been completed). While this is reasonably specific and measurable, developing annual targets may be beneficial once infestations have been mapped. For example, the previous Hera Mine BMP included a target for *‘No increase in the area of occupancy for a weed species and a 5% reduction in weed coverage per annum’.*

An additional performance criterion of ‘no establishment of new weed infestations’ could be added to address the proponent’s stated intention to *‘eliminate new infestations before they become established’.*

Recommendations

2.1 Ensure all performance criteria, completion criteria (where appropriate), and any annual targets and trigger points for each domain:

a) meet the ‘SMART’ principles (specific, measurable, achievable, realistic, time framed)

b) are drafted with consideration of current baseline conditions.

c) are supported by performance indicators/measures linked to suitable monitoring methods.

2.2 Review all performance criteria and trigger points to ensure they reflect the BMP objectives and will facilitate appropriate and timely management responses to keep performance on track.

2.3 Consider including the following text within the ‘uncontrolled fire’ trigger points in Table 18:

a) Condition orange – ‘Bushfire risks are identified and have been managed on the site via implementation of [insert title of the Bushfire Management Plan for the site]’ or similar.

b) Condition red - ‘Bushfire risks have not been identified and managed via implementation of [insert title of the Bushfire Management Plan for the site]’ or similar.

3. Some triggers for corrective action are unsuitable or inconsistent across the BMP.

Table 18 presents the proposed corrective actions when certain triggers are met. Some of the desired responses to/outcomes of the proposed corrective actions are alluded to throughout the plan, although not consolidated in Table 18.

In addition to ensuring trigger points are clear, specific and measurable (see **Issue 2** above), certain trigger points should be reviewed to ensure they are suitably targeted, and consistent between the body of the BMP and the appendices.

Use of consistent terminology - *‘Green zone’* versus *‘avoided zone’*

The BMP defines two management zones - the ‘high traffic zone’ and the ‘green zone’. In Table 18 some trigger points instead reference the ‘avoided zone’, which is presumably a reference to the ‘green zone’. Consistent terminology should be used throughout the document to minimise confusion.

Clearing native vegetation

'Condition orange' is a *'minor/technical non-compliance'* in the extent of native vegetation clearing up to 5m outside of the approved disturbance areas (ADA). However, it seems that *'+/-5m from the boundary of the ADA'* unnecessarily captures clearing within the ADA. Rewording this statement to read 'any instance of vegetation clearing within a 5m buffer outside the ADA', or similar, may better represent the intent of the condition.

'Condition red' is defined as *'Major non-compliance consisting of significant clearing (>5ha) of native vegetation outside of the ADA'* and the associated actions are incident investigation, review of mitigation measures, modification of operations, notification to relevant government agencies and impacted land owners and potential review of the management plan.

There is no action specified in the BMP for any vegetation clearing that might occur between 5m outside the ADA and up to 5ha of unapproved clearing. Considering that the BMP proposes clear, accurate and appropriate demarcation of the extent of planned clearing, we suggest that any clearing beyond the 'condition orange' level trigger (i.e. beyond 5m from the ADA boundary) is captured within the 'condition red' trigger.

Pests and Weeds

The pest and weed management action triggers between Table 18 and Appendices C and D do not align. The TARP indicates that pest and weed control will only be implemented when 'incidental' pest/weed sightings are 'not infrequent' and biodiversity monitoring indicates the pest/weed is having a moderate impact on biodiversity on the site (see **Issue 2** above). This does not align with:

- Appendix C, which states that:
    - baiting of cats and foxes will be ongoing, with cat trapping undertaken opportunistically in 'problem areas, as required' (although it is unclear how 'problem areas' will be defined and identified).
    - upfront exclusion fencing and opportunistic goat trapping and removal (partially based on lack of presence of goat kids under 6 months old)
    - exclusion fencing for any threatened flora discovered
    - rabbit warren ripping when warrens are detected.
- Appendix D, which states that implementation of weed control actions:
    - will be based on both detection of new infestations and changes in the extent of mapped weed populations rather than only incidental observations combined with the level of biodiversity impact.
    - will also be implemented to proactively reduce the area of occupancy of existing infestations and eliminate new infestations before they become established.

In revising triggers to be more specific and quantitative, they could also be more responsive to performance criteria and any annual targets. The BMP could be improved by being more specific about which pest and weed control actions are regular ongoing actions, versus those additional control measures or increased intensity of control measures that will be implemented when specific trigger points are reached, and consistently communicating these throughout the document.

For example, a corrective action like more intensive weed control, or moving to a different control method, might be triggered if there is no reduction in area of occupancy of weed x or an increase in weed x over a defined period of time (see **Issue 3** below).

Recommendations

3.1 Use consistent zone names throughout the BMP.

3.2 Review the wording of '+/-5m' within the 'condition orange' trigger associated with native vegetation clearing, which appears to capture impacts within the approved disturbance area (ADA) inadvertently.

3.3 Revise the 'condition red' trigger for native vegetation clearing in Table 18 to include clearing >5m beyond the ADA boundary.

3.4 Link specific control measures, or increased intensity of control measures, to each trigger point

3.5 Ensure trigger points and associated actions are consistent throughout the BMP and appendices.

4 Some of the proposed management measures and procedures should be clarified or amended.

Vegetation Clearing Procedures

The BMP states that clearing native vegetation in spring will be avoided where possible. This could be strengthened by:

- referencing within an appendix the known breeding periods for the 18 threatened species recorded across the site to date. The potential breeding periods for the majority of those species extends into summer, and for some may start in late winter. In addition to the intention to try to avoid clearing in spring, the BMP could also note that autumn would be the optimal clearing window to target.
- specifically noting that some threatened fauna recorded on the site nest on the ground or within the shrub layer.

Condition B70(e)(ii) requires the BMP to describe the measures to be implemented to minimise impacts on fauna *'including undertaking pre-clearance surveys and translocation of threatened species as guided by the NSW Government's Translocation Operational Policy 2019…'*

In response, Table 9 of the BMP proposes that where key threatened species habitat (active nest, active roost, population of a threatened plant) is identified in the pre-clearance survey, the threatened species will be translocated in accordance with the Translocation Operational Policy[2], including preparation of a Translocation Proposal.

The Translocation Operational Policy requires a high degree of rigour for Translocation Proposals for DCCEEW approval. It specifies that the policy does not apply to certain actions, including for example the intentional movement of animals to a nearby location for the purpose of moving them out of harm's way.

Instead, it would be appropriate for the BMP to meet condition B70(e)(ii) by stating that the applicability of the Translocation Operational Policy will be assessed on a case-by-case basis during the pre-clearing stage, and a translocation proposal prepared for DCCEEW approval if required. Otherwise, a species-specific tailored protocol for moving the species out of harm's way and into adjacent habitat should be developed, using the guiding principles for translocation in the policy.

Proposed goat exclusion fencing around the perimeter of the site, followed by goat removal.

The BMP does not indicate that the impacts of this fencing on the movement and welfare of macropods and emus has been considered. For example, the BMP should address:

- how all macropods and emus will either be removed from the site prior to fence completion or how they will be humanely and sustainably managed within the fenced area.
- how the fence design will minimise the risk of native fauna entanglement.

Proposed exclusion fencing around any discovered populations of threatened plants.

This action should be considered on a case by case basis, including the potential need to otherwise manage biomass within the fenced area in the absence of grazing, depending on the ecological requirements of the specific threatened flora species.

[2] DPIE (2019) *Translocation Operational Policy.* State of NSW and Department of Planning Industry and Environment. https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Threatened-species/translocation-operational-policy-190552.pdf

Rabbit warren ripping

Appendix C indicates that rabbit warren ripping will be undertaken opportunistically. At a minimum, the BMP should demonstrate that any rabbit warren ripping undertaken on site will comply with the NSW Department of Primary Industries standard operating procedure[3] for that activity.

Weed control

Specific control methods to be implemented for the known and potential target weed species are not included. As noted in Issue 3, the BMP would benefit from indicating what elevated control methods for each weed species or groups of species might be employed when 'condition red' triggers are reached, in comparison with 'condition orange' triggers. The previous Hera Mine BMP indicated that a weed management plan would be developed, which BCS assumes would already contain this type of information.

'Unauthorised access to the avoided zone'

Whilst there are 'orange' and red' trigger levels related to the impacts of unauthorised access to this zone, the management action for each is identical. We recommend that there is an elevation in associated actions between the two trigger levels.

Recommendations

4.1 Adequately detail all proposed mitigation measures within the BMP, with consideration of baseline conditions.

4.2 Include reference to the:

a) known breeding periods for threatened species recorded on the site

b) ground and shrub layer nesting species known to occur on the site

to encourage scheduling of clearing activities outside of those periods where possible, and flag these species for particular consideration by ecologists undertaking the pre-clearing surveys and habitat inspections during habitat removal.

4.3 In addition to the intent to avoid clearing during spring, also flag autumn as the optimal clearing window.

4.4 Revise the BMP to state that if threatened flora or fauna are encountered during pre-clearing surveys:

a) the applicability of the current NSW Translocation Operational Policy will be assessed on a case-by-case basis and a translocation proposal prepared if required.

b) where a translocation proposal for DCCEEW's approval is not required, a species-specific tailored protocol for moving the species out of harm's way and into adjacent habitat should be developed, using the guiding principles for translocation in the Policy.

4.5 Ensure potential impacts of exclusion fencing on the movement and welfare of macropods and emus are considered, including:

a) how all macropods and emus will either be removed from the site prior to fence completion or how they will be humanely and sustainably managed within the fenced area

b) how fence design will minimise the risk of native fauna entanglement.

4.6 Note within the BMP that should a threatened flora species be identified on the site, the appropriateness of fencing the species/population will be considered based on its specific ecological requirements and provision made to manage biomass within the fenced area over time as necessary.

[3] DPI (2022) NSW RABCOP: Rabbit Code of practice and Standard Operating Procedures - NSWRAB SOP5 Rabbit warren destruction by ripping. March 2022 https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0005/1396742/NSWRAB-SOP5-Rabbit-warren-destruction-by-ripping.PDF

4.7 Demonstrate within the BMP how proposed management actions, monitoring and triggers address the NSW Department of Primary Industries standard operating procedure for rabbit warren ripping.

4.8 Consider inclusion of specific treatment methods for the target weed species recorded on the site, within Appendix D.

4.9 Expand the 'condition red' management actions addressing unauthorised access with harm to threatened species or native vegetation via illegal hunting, dumping of waste etc to include remediation of those impacts.

5. The appendix detailing the proposed salvage of resources for beneficial reuse has not been included in the BMP.

Condition B70(e)(iii) requires the BMP to describe the measures to be implemented within the approved disturbance area to maximise the salvage of resources, including tree hollows, vegetation and soil resources for beneficial reuse such as fauna habitat enhancement. Condition B70(f)(iii) also requires the BMP to describe measures to be implemented on the site to manage the collection and propagation of seed from the local area.

In Table 9 of the BMP, management measures to *'minimise the removal of native vegetation'* and *'minimise impacts to fauna in the ADA'* include:

- *'some'* vegetation to be removed being mulched on site and re-used to stabilise disturbed areas *'where possible'*
- leaving fallen timber, dead wood and bush rock in situ where possible, or relocated to a suitable place nearby within the 'green zone'.
- Rock removed with *'suitable machinery'* to avoid damage to underlying rock and or 'excessive' soil disturbance.

The BMP does not reference the commitments made in the BDAR for large trees (or part thereof), with hollows being left in remnant vegetation to provide habitat or used in the water way to create snags, and 1:1 replacement of hollows in suitable retained trees to compensate for the loss of hollows >20cm diameter,

In Table 10 of the BMP, the management measure to *'maximise salvage of resources for beneficial reuse'* is *'implement the biodiversity resource salvage plan (Appendix B)'.* Table 10 also makes reference to the biodiversity resource salvage plan in relation to managing propagation of seed from the local area. However, Appendix B does not present the biodiversity resource salvage plan, stating *'This appendix will be written to complement the rehabilitation management plan'.*

In Table 18, *'Consider salvage and/or restoration of habitat values where necessary'* is also included as an action for the 'condition orange' trigger where vegetation clearance has occurred within 5m buffer outside of the boundary of the ADA. In contrast, the previous Hera Mine BMP proposed restoration to within 75% of reference condition for any damage to native vegetation.

Recommendations

5.1 Provide the proposed biodiversity resource salvage plan at Appendix B of the BMP.

5.2 Ensure the BMP reflects all commitments made to mitigation measures in the environmental impact assessment.

5.3 Require salvage or restoration of habitat values in any instance of accidental clearing within a 5m buffer outside of the ADA and address this within the proposed Appendix B biodiversity resource salvage plan prior to finalisation of the BMP.

6. BMP content under the banner of 'unpredicted'/'unexpected' biodiversity impacts requires revision

Condition C5(f) requires all management under the consent to include a contingency plan to manage any unpredicted impacts and their consequences.

Section 5.2 (page 49) of the BMP defines 'unpredicted biodiversity outcomes' as including harm from heavy metal or other hazardous chemicals, 'significant' impacts to threatened fauna species associated with light pollution, blasting, vibration and noise, and introduction of a disease or pathogen via imported machinery or equipment.

The BMP states that where unpredicted impacts are identified, mitigation measures would be implemented as per the corrective actions in the BMP (ie. development of an adaptive response protocol) when monitoring identifies 'minor' unexpected harm or 'sudden and/or significant harm' to biodiversity.

The BMP should include further detail regarding these types of impact, rather than only addressing them as impacts to be investigated if they occur.

The monitoring by which such biodiversity impacts are detected and tracked is currently not specified within the BMP, apart from reference to BAM plots playing a role in identifying indirect or 'unanticipated' impacts. No specific management actions are referenced within the BMP, apart from the washing down of machinery and other equipment and investigation and reporting of any disease outbreak.

This appears to be the only consideration of potential harm from hazardous substances within the BMP. The previous Hera Mine BMP demonstrated some consideration of the risk to native fauna in the management of the tailings storage facility, the management actions to be implemented to reduce that risk, and further actions triggered in the event of any incidence of native fauna death from cyanide. The associated monitoring to detect and determine fauna death from cyanide was specified in that plan, with a performance target of zero impact. It is not clear which Federation and Hera Mine management plan this type of impact is now addressed within.

Regarding indirect impacts such as light, vibration and noise, Table 9 of the BMP proposes to *'Limit noise, vibration and artificial light to the minimum amount necessary to practically complete the approved activities'*. No further detail is included. At a minimum the BMP should reference the relevant plans addressing these impacts and where those plans can be found.

All BMPs should also include an unexpected threatened species finds procedure (ie. detection of a threatened species that was not assessed within the BDAR). Discovery of any threatened species in the impact area that was not considered and assessed within the BAM is noteworthy and, in that situation, DCCEEW should be notified in the first instance and advice sought.

Recommendations

6.1 Identify any biodiversity risks associated with heavy metals or hazardous substances in the BMP and:

a) list the mitigation measures to be put in place to reduce those risks.

b) state how biodiversity impacts from these substances would be monitored and remedial action triggered.

c) reference any other management plans for the site that address the management of these substances, and where those plans can be found.

6.2 Outline the measures being implemented to limit the impact of dust, noise, vibration and artificial light, and refer to the specific plans where those impacts are addressed in more detail including where they can be found.

6.3 Include an unexpected finds procedure in the BMP specifying that:

a) BCS should be notified in the first instance if an unexpected find occurs.

b) Further advice should be sought from BCS if a threatened species that was not considered during the BAM assessment is detected on the site.

7. Aspects of the proposed impact and biodiversity monitoring should be clarified and amended

Monitoring methods should be suitably targeted to the performance indicators and able to measure progress towards performance criteria, completion criteria and triggers for corrective action. Some of the monitoring proposed for this purpose in the BMP is unclear or requires improvement. Examples include:

Vegetation Integrity (VI)

Section 4.2 (BMP pages 44-45) proposes establishing 16 BAM Biodiversity plots (plots *'proximate to'* the *'high traffic biodiversity management zone'* with paired control sites in the *'green zone'*) to *'assist in the identification of indirect, unanticipated, or cumulative impacts'.* Appendices C and D indicate that VI scores will be used in tracking the impact of non-native herbivores and potentially play a role in triggering management actions.

The BMP does not detail how 16 plots (eight in each of the two management zones, specific locations not yet available) was determined to be an adequate number of plots for this purpose. Whilst the BMP indicates that vegetation zones have not yet been determined, Table 13 suggests that eight vegetation zones will be monitored across the two management areas, with a single 'proximal' and 'control' plot for each vegetation zone. We also consider there is value in retaining the existing 13 ecological monitoring points at the Hera Mine site.

Native fauna abundance

Native fauna abundance is proposed as a performance indicator associated with pest animal management in Appendix C. The monitoring method for tracking native fauna abundance is not clear from the BMP. Table 16 only proposes annual targeted surveys (spring/summer) for the presence of threatened fauna with an unspecified number/length of threatened fauna survey transects to be established 'across the site'.

Pests and weeds

Table 17 indicates that pest animal observations will be made by the Environmental Superintendent as part of carrying out ordinary duties across the site. A BAM accredited assessor will undertake a 'survey' for pest animal species across the site annually. The need for a BAM accredited assessor to undertake that survey is not explained.

Table 15 indicates that the Federation Mine Environment Team will survey for weed species seasonally during spring/summer across the site, with a focus on the 'high traffic zone', and a BAM accredited assessor will survey for weeds species annually at each of the vegetation monitoring plots. The frequency of monitoring known weed infestations which are proposed to be mapped is unclear.

It is also not clear whether monitoring for cats and foxes will be limited to incidental day-time observations by the Environmental Superintendent or accredited assessor, or whether any specific nocturnal surveys, use of camera traps, or surveys for other signs of these species will be periodically conducted. Similarly, it is unclear if monitoring for rabbits, pigs and goats will be limited to incidental observations or whether any specific pre-, during or post- control action implementation monitoring of rabbit warrens, pig diggings or goat movements will be undertaken.

It would be appropriate for the BMP to include an increase in the intensity and frequency of monitoring as part of the corrective actions triggered in Table 18 eg. for a period following elevated pest and weed control actions being implemented.

<u>Recommendations</u>

7.1 Ensure the monitoring program addresses all performance indicators and will enable tracking of progress towards performance criteria, completion criteria and triggers for corrective action.

7.2 Identify within the BMP the location of all monitoring locations, providing strong justification for any proposed discontinuation of existing monitoring locations on the Hera Mine site.

7.3 Clarify the intended frequency of monitoring known (mapped) weed infestations.

7.4 Clarify whether any increased intensity and frequency of monitoring will be undertaken in response to condition 'orange' or 'red'.

7.5 Detail:

a) the monitoring methods to be employed for all pest species

b) whether specific pre-, during and post-control monitoring of goat movements, rabbit warrens, or evidence of cats, foxes and pigs will be undertaken as part of effective implementation of control measures and determining the success of those measures.

Attachment C

Biodiversity Management Plans

Generic Example – Performance/Completion criteria, performance indicators and 'trigger, action, response' plans

A generic weed management example is provided below to illustrate how the advice in Attachment B could be implemented in the BMP, for all management issues:

- **Baseline data:** area of weed infestation by management domain or where weed infestation is small, the number of individuals by domain (per weed species if possible).
- **Performance criteria/target:** by xxxx (year) to reduce noxious weeds by xx% of current area of infestation and to have all other weeds remain at current levels of infestation.
- **Performance measure:** area of the particular weed or number of individuals of the particular weed.
- **Completion criteria**: area or numbers of individuals per management domain deemed acceptable based on the level of threat (the completion criteria and contingency or corrective action trigger should be based on the degree of threat that is deemed acceptable).
- **Annual target:** a specific weed reduction target based on level of management required to achieve ultimate target.
- **Trigger point:** defines when appropriate adaptive management measures will be applied to ensure a successful outcome e.g.:
    - Increase in the cover of weed x by x% or x number of individuals.
    - Occurrences of previously unidentified weed species on the site
    - New occurrences of weeds in other locations of the site
- **Corrective action:** the adaptive management measures that will be applied if the trigger point is reached. E.g:
    - Increase intensity of the weed control project, specifically for weed x. Additional measures for weed x could include….Or 'move to implementing x control measure'.
    - Implement appropriate controls for the new weed species detected, in consultation with the Department of Primary Industries.
    - Identify and address the source of any new weed introductions
    - Tighten management protocols to prevent spread of weeds via personnel or equipment.
- **Response:** states the expected monitoring results/outcomes of the corrective action over a defined period. E.g:
    - Eradication of infestation within x months. Where the weeds are not responding to an action over [a defined period], further elevation of control actions may be required.

Table A1: Response to Consultation

BCS ID	Recommendation	Response
Baseline Data		
1.1	Reference long-term monitoring data from the Hera Mine site within the BMP and explain how this data will be utilised in ongoing management of impacts and biodiversity on the site, or justify the exclusion of that data.	AREA intends to utilise the existing wealth of data from the Hera Mine Site – the optimum mix of which monitoring points to keep and which to move closer to the Federation Mine is to be determined in Autumn / Spring biodiversity monitoring 2024. Chapter 5 introductory text has been updated.
1.2	Include within the BMP any existing weed mapping from the Hera Mine site	Baseline weed mapping to be conducted during Autumn / Spring biodiversity monitoring 2024.
1.3	Prioritise the establishment of monitoring points and collection of baseline data for all performance indicators/measures proposed in the BMP	Yes, this is a priority for Autumn / Spring biodiversity monitoring 2024.
1.4	Update the BMP to present all relevant baseline data and refine performance criteria/targets, triggers for corrective action and proposed management measures, and responses as appropriate.	Addressed in the revised TARP (Section 6)
Improving performance criteria, targets and triggers for corrective action		
2.1	Ensure all performance criteria, completion criteria (where appropriate), any annual targets and trigger points for each domain: a) meet the 'SMART' principles (specific, measurable, achievable, realistic, time-framed) b) are drafted with consideration of current baseline conditions. c) are supported by performance indicators/measures linked to suitable monitoring methods	Addressed in the revised TARP (Section 6). IEMA added accountable task under Environment Superintendent (Section 9).
2.2	Review all performance criteria and trigger points to ensure they reflect the BMP objectives and will facilitate appropriate and timely management responses to keep performance on track	To be refined after monitoring 2024. Addressed in the revised TARP (Section 6)
2.3	Consider including the following text within the 'uncontrolled fire' trigger points in Table 18: a) Condition orange – 'Bushfire risks are identified and managed on the site via implementation of [insert title of the Bushfire Management Plan for the site]' or similar. b) Condition red - 'Bushfire risks have not been identified and managed via implementation of	Addressed in the revised TARP (Section 6)

BCS ID	Recommendation	Response
3.1	Use consistent zone names throughout the BMP	AREA has updated.
3.2	Review the wording of '+/-5m' within the 'condition orange' trigger associated with native vegetation clearing, which appears to capture impacts within the approved disturbance area (ADA) inadvertently	AREA has updated.
3.3	Revise the 'condition red' trigger for native vegetation clearing in Table 18 to include clearing >5m beyond the ADA boundary	AREA has updated.
3.4	Link specific control measures, or increased intensity of control measures, to each trigger point	Addressed in the revised TARP (Section 6)
3.5	Ensure trigger points and associated actions are consistent throughout the BMP and appendices.	AREA has updated in synchrony with the revised TARP.
Improving proposed management actions		
4.1	Adequately detail all proposed mitigation measures within the BMP, with consideration of baseline conditions	AREA can adequately detail proposed management measures with existing knowledge. Incorporation of baseline data following Autumn / Spring biodiversity monitoring 2024.
4.2	Include reference to the: a) known breeding periods for threatened species recorded on the site b) ground and shrub layer nesting species known to occur on the site to encourage scheduling of clearing activities outside of those periods where possible and flag these species for particular consideration by ecologists undertaking the pre-clearing surveys and habitat inspections during habitat removal.	AREA has incorporated these into Appendix F. AREA has updated section 4.3 to refer to Appendix F.
4.3	In addition to the intent to avoid clearing during spring, also flag autumn as the optimal clearing. window.	AREA has incorporated these into Appendix F. AREA has updated section 4.3 to refer to Appendix F.
4.4	Revise the BMP to state that if threatened flora or fauna are encountered during pre-clearing surveys: a) the applicability of the current NSW Translocation Operational Policy will be assessed on a case-by-case basis and a translocation proposal prepared if required. b) where a translocation proposal for Department approval is not required, a species-specific tailored protocol for moving the species out of harm's way	AREA has updated.

BCS ID	Recommendation	Response
	and into adjacent habitat should be developed, using the guiding principles for translocation in the Policy.	
4.5	Ensure potential impacts of exclusion fencing on the movement and welfare of macropods and emus are considered, including: a) how all macropods and emus will either be removed from the site prior to fence completion or how they will be humanely and sustainably managed within the fenced area b) how fence design will minimise the risk of native fauna entanglement.	AREA has updated Appendix C to include wildlife escape ramps and appropriate exclusion fence design.
4.6	Note within the BMP that should a threatened flora species be identified on the site, the appropriateness of fencing the species/population will be considered based on its specific ecological requirements and provision made to manage biomass within the fenced area over time as necessary	AREA has updated text at Appendix C.
4.7	Demonstrate within the BMP how proposed management actions, monitoring and triggers address the NSW Department of Primary Industries standard operating procedure for rabbit warren ripping.	AREA has updated Appendix C.
4.8	Consider inclusion of specific treatment methods for the target weed species recorded on the site, within Appendix D.	We have specifically referred to the NSW WeedWise website which contains the latest control options for weed species, including rotation options for herbicides to combat resistance. There is no need to replicate this data in the BMP. Problem weed infestations which are not responding to recommended management can have a specific control program if that is deemed necessary following monitoring. Appendix D commits to reviewing the success of weed treatments annually.
4.9	Expand the 'condition red' management actions addressing unauthorised access with harm to threatened species or native vegetation via illegal hunting, dumping of waste etc to include remediation of those impacts.	Addressed in the revised TARP (Section 6)
5.1	Provide the proposed biodiversity resource salvage plan at Appendix B of the BMP	AREA has updated – with a caveat for further updates to align with the rehabilitation management plan.
5.2	Ensure the BMP reflects all commitments made to mitigation measures in the environmental impact assessment	See section 2.1.2 / Table 4 of the BMP.
5.3	Require salvage or restoration of habitat values in any instance of accidental clearing within a 5m buffer outside of the ADA and address this within the proposed Appendix B biodiversity resource salvage plan prior to finalisation of the BMP.	Addressed in the revised TARP (Section 6)

BCS ID	Recommendation	Response
6.1	Identify any biodiversity risks associated with heavy metals or hazardous substances in the BMP and: a) list the mitigation measures to be put in place to reduce those risks. b) state how biodiversity impacts from these substances would be monitored and remedial action triggered. c) reference any other management plans for the site that address the management of these substances, and where those plans can be found.	Addressed in Table 9 and revised TARP. Heavy metals and hazardous substances management is also addressed in the Water Management Plan and Hazardous Materials Management Plan.
6.2	Outline the measures being implemented to limit the impact of dust, noise, vibration and artificial light, and refer to the specific plans where those impacts are addressed in more detail including where they can be found.	Refer to the EMS for an outline of the Environmental Management Plans for the Site, which include a Noise Management Plan, Blast Management Plan, Air Quality and Greenhouse Gas Management Plan, and Traffic Management Plan.
6.3	Include an unexpected finds procedure in the BMP specifying that: a) BCS should be notified in the first instance if an unexpected find occurs. b) Further advice should be sought from BCS if a threatened species that was not considered during the BAM assessment is detected on the site	AREA and IEMA have updated text in Appendix G.
Clearly communicating an adequate monitoring program		
7.1	Ensure the monitoring program addresses all performance indicators and will enable tracking of progress towards performance criteria, completion criteria and triggers for corrective action	Addressed in the revised TARP (Section 6)
7.2	Identify within the BMP the location of all monitoring locations. Strong justification should be provided for any proposed discontinuation of existing monitoring locations on the Hera Mine site.	This is a priority for Autumn / Spring biodiversity monitoring 2024.
7.3	Clarify the intended frequency of monitoring known (mapped) weed infestations.	Addressed.
7.4	Clarify whether any increased intensity and frequency of monitoring will be undertaken in response to condition ‘orange’ or ‘red’	Addressed in the revised TARP (Section 6)
7.5	Detail: a) the monitoring methods to be employed for all pest species b) whether specific pre-, during and post-control monitoring of goat movements, rabbit warrens, or evidence of cats, foxes and pigs will be undertaken as part of effective implementation of control measures and determining the success of those measures.	Updated the text in Table 15 and Table 18 to include specific monitoring of recorded infestations.

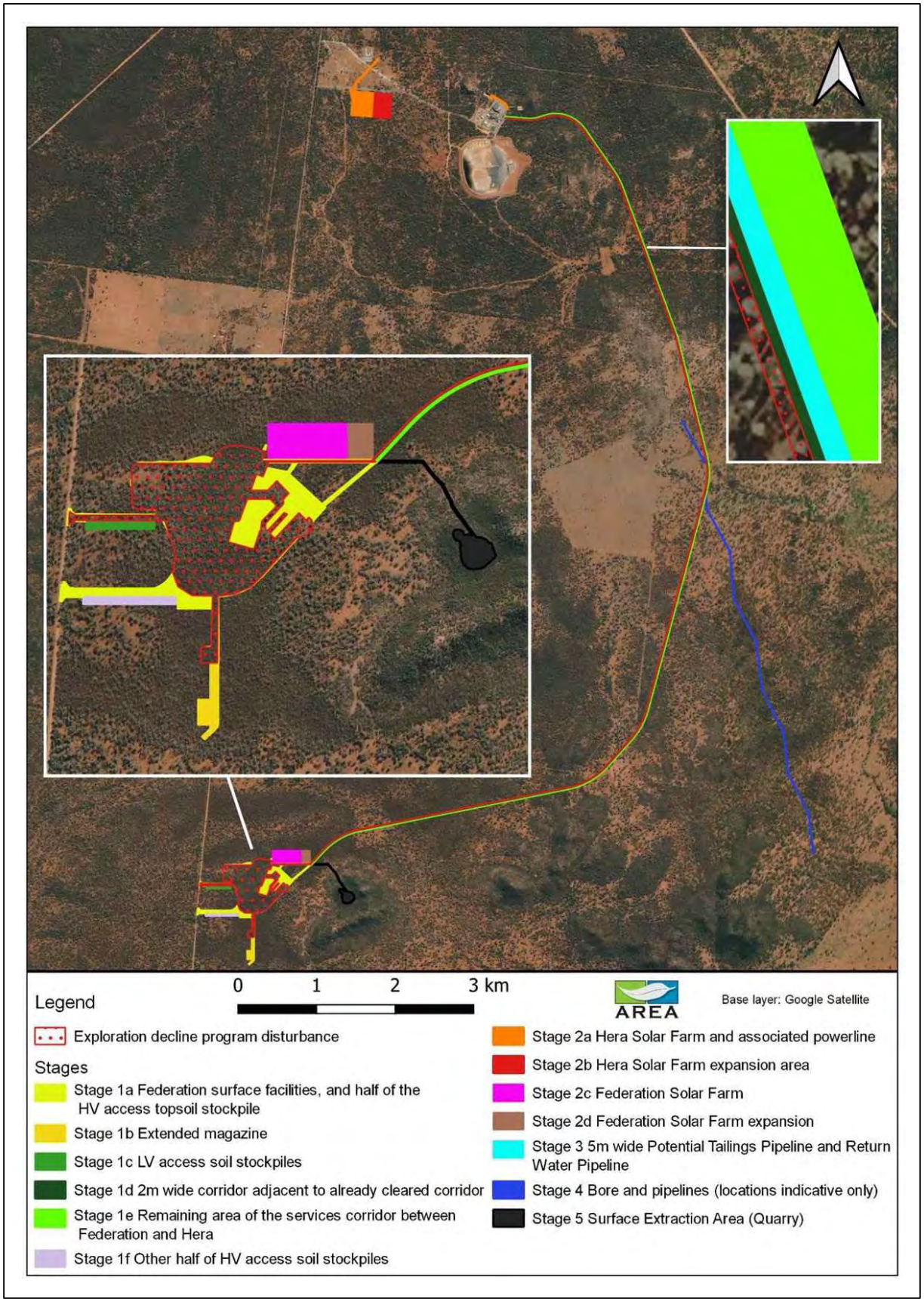

Figure A-1: Stages of biodiversity credit retirement from Schedule 2 Condition B68 (Source: SSD-24319456 Appendix 4 – Biodiversity Offset Stages)

Department of Planning, Housing and Infrastructure

Our ref: SSD-24319456-PA-33

Mark Williams
Environmental Superintendent
Hera Resources Pty Limited
Address 353 Burthong Road
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15/04/2025

Subject: Federation Mine – Consultation Request

Dear Mr. Williams

I refer to your submission dated 11 May 2025, requesting the Planning Secretary's agreement that consultation with nominated stakeholders is not required while making minor and administrative changes while revising management plans following approval of Modification 2 of the Development Consent for the Federation Mine (SSD- 24319456).

The Department notes that Modification 2 of the federation Mine project allowed:

- extension of haulage hours and increase of ore haulage up to 600,000 tpa
- Reclamation of tailings storage for paste backfill
- Minor rearrangement of infrastructure, including a new water tank.

The Traffic Management Plan, however, is proposed to be revised in consultation with TfNSW, Cobar Shire Council and Bogan Shire Council and not CPHR.

Accordingly, as nominee of the Planning Secretary and in accordance with Schedule 2 Condition A23, I agree with your request and advise that consultation not be required for the following plans:

- Water Management Plan
- Waste Rock Management Plan
- Air Quality and Green House Gas Management Plan
- Noise Management Plan
- Environmental Management Strategy
- Blast Management Plan
- Hazardous Materials Management Plan
- Biodiversity Management Plan

- Rehabilitation Strategy

Please ensure you make the management plans publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Wayne Jones on (02) 6575 3406.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Planning Secretary

APPENDIX B
BIODIVERSITY RESOURCE SALVAGE PLAN

Consent conditions require this BioMP to describe the measures to be implemented to:

- B70(e)(iii): maximise the salvage of resources, including tree hollows, vegetation, and soil resources, for beneficial reuse, including fauna habitat enhancement; and,
- B70(f)(iii): manage the collection and propagation of seed from the local area.

This biodiversity resource salvage plan is designed to meet these requirements.

This appendix may be revised following the finalisation of the Hera Mine and Federation Mine Rehabilitation Management Plan.

Salvage

During approved clearing activities within the ADA, the following biodiversity resources will be salvaged for beneficial reuse in the Green Zone:

- Tree hollows and structurally in-tact large hollow logs (greater than 10cm diameter and can be picked up and moved without falling apart).
- Seed material from the canopy of mature *Casuarina* trees felled in the ADA.
- Topsoil removed from the ADA will be stockpiled (with erosion / sediment controls) for reuse during rehabilitation of the Site.

Seed sources include the topsoil seed bank and viable seed from plants pre-clearing. Collection and propagation will be completed by suitably qualified contractors. The verification of plant species, seed provenance, storage, and propagation methods will be recorded.

Beneficial reuse

- Tree hollows removed from the ADA will be placed upright at least 1 metre above the ground level in the Green Zone at an even distribution starting away from the High Traffic Zone, where practical.
- Large hollow logs will be placed at an even distribution (not stockpiled / windrowed) on the ground surface in the Green Zone, starting away from the High Traffic Zone, where practical.
- The canopy of mature *Casuarina* trees felled in the ADA will be placed at an even distribution (not stockpiled / windrowed) on the ground surface in the Green Zone, starting away from the High Traffic Zone, where practical.

APPENDIX C
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 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 program 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
Lethal baiting	Curiosity® bait for feral cats	Across the Site	Ongoing	Environmental Superintendent
Trapping	NSWCAT SOP2 Trapping of feral cats using cage traps	Across the Site	Opportunistic in problem areas, as required	Environmental Superintendent

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. However, for some native species, other factors besides predation may be operating. For example, it has been shown that factors which affect food for mallee fowl chicks may also need to be addressed in addition to predation.

Objectives

The main objective of this fox management program 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; 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 monoflouroacetate (1080)	Across the Site	Ongoing	Environment superintendent

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 program 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 program is to minimise the impact of grazing on native vegetation communities which will:

- Maximise groundcover (grasses and shrubs),
- Reduce erosion,
- iIncrease resistance against invasions of pest plants,
- Increase the VI score of native vegetation communities; and,
- Increase fauna habitat.

Control Actions

Three effective control methods have been identified to manage the 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 superintendent
Exclusion fencing (threatened flora)	Appropriately robust exclusion fencing	Considered on a case-by-case basis, (depending on the ecological / habitat requirements of each threatened flora species) around discovered populations of threatened flora on the Site	Once, following identification of a threatened plant population and following considering the appropriateness of fencing the species/population	Environment superintendent
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 superintendent

Exclusion Fencing Design

Appropriate designs for exclusion fencing would not require the use of barbed wire. Two potentially suitable designs are provided which:

- Do not use barbed wire, and therefore reduce the risk of native fauna entanglement (**Plate 1**), and
- Use electrified wire to deter pest animals (pigs and goats) from damaging the fence (**Plate 2**).

Place a series of one-way exit ramps (example at **Plate 3**) between 1.5-1.8m above ground level, around the boundary of the Site to allow fauna to exit. This will manage total grazing pressure on the Site and prevent welfare concerns regarding the sustainable management of native herbivores.

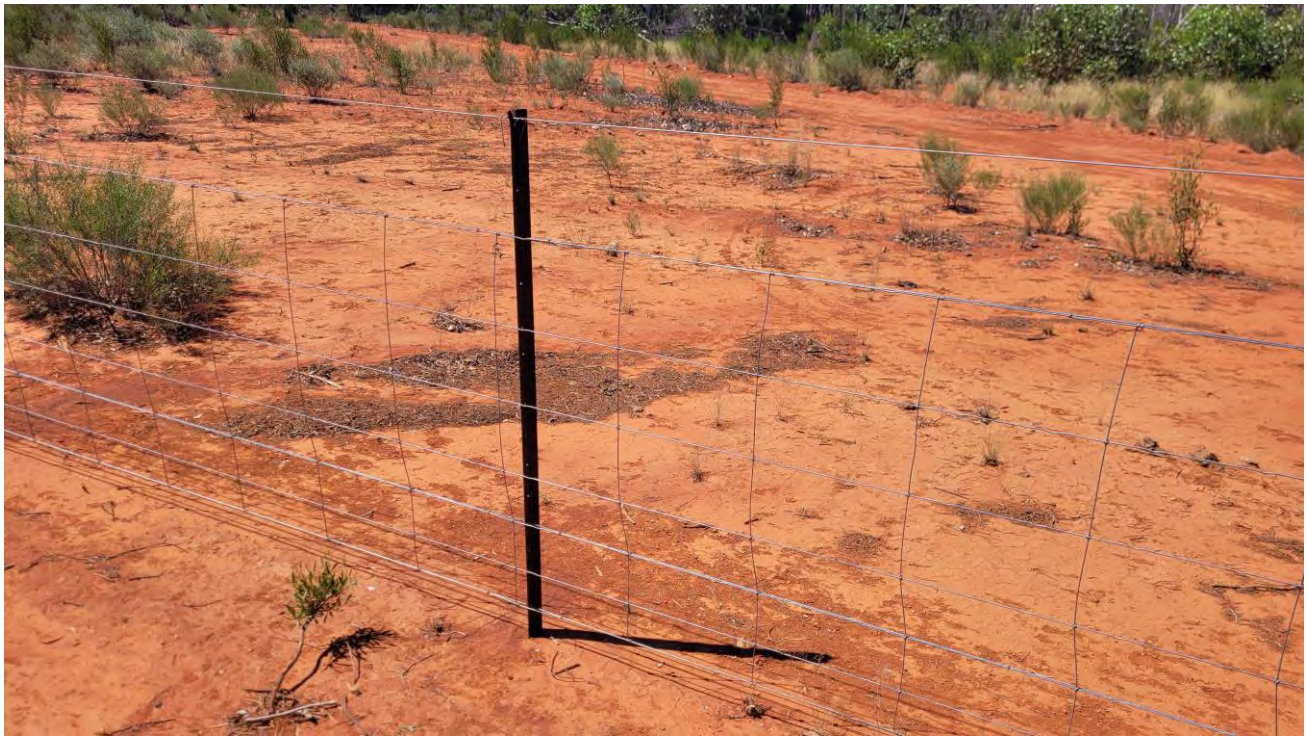


Plate 1: An appropriate exclusion fence design without barbed wire.

Plate 2: An appropriate exclusion fence design using electrified wire.

Plate 3: Examples of wildlife escape ramp designs.

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 program 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 superintendent
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 superintendent
Lethal baiting	PIG005 Ground baiting of pigs with sodium monoflouroacetate (1080)	Across the Site	Ongoing	Environment superintendent

Monitoring

The presence of pigs on the Site will be continuously monitored throughout the life of the Project. If an increase in feral pig 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 program 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 superintendent
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 superintendent

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 program 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 D
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.

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. The effectiveness of weed treatment methods will be reviewed annually, noting the success of weed treatments may only become evident in the long-term.

Pest plant species	Identification	Control objectives
African boxthorn *Lycium ferocissimum*		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.
Bathurst burr *Xanthium spinosum*		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.

Pest plant species	Identification	Control objectives
Bridal creeper *Asparagus asparagoides*		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 *Hyparrhenia hirta*		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 *Datura stramonium*		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. • 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.

Pest plant species	Identification	Control objectives
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.
Mexican poppy *Argemone ochroleuca*		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 *Bryophyllum* 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.

Pest plant species	Identification	Control objectives
Noogoora burr *Xanthium occidentale*		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.
Onion weed *Asphodelus fistulosus*		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 *Parthenium hysterophorus*		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 *Echium plantagineum*		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 *Schinus* spp.		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 *Cylindropuntia* 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 *Opuntia* 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 *Carthamus lanatus*		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 *Solanum elaeagnifolium*		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 E
FAUNA HANDLING AND RESCUE 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

1. Some animals require particular handling (e.g. venomous reptiles, raptors) and should only be handled by appropriately qualified personnel.
2. If handling bats, the handler must be vaccinated against the Australian Bat Lyssavirus (ABL) which is a form of rabies.
3. Any frog handling would be undertaken in accordance with the NSW Government's *Hygiene Guidelines* (DPIE, 2020).
4. Any fauna translocation would be undertaken in accordance with the NSW Government's *Translocation Operational Policy 2019* (OEH, 2019).
5. If the species is nocturnal, release will normally be carried out at dusk.
6. Non-native fauna will not be translocated and will be euthanised.

Vegetation Clearing Procedure

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

1. **Pre-clearing survey:** The wildlife handler 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.
2. **Stage 1 clearing – under-scrubbing and non-habitat tree removal:** The wildlife hander 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:
    a. **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 contacted, the most appropriate euthanasia will be administered by suitably qualified personnel (i.e. cervical dislocation for small vertebrates).
    b. **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.
    c. **Apparently healthy fauna:** will be allowed to leave the area without further intervention.
3. **Stage 2 clearing – controlled habitat removal:** The wildlife handler 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:
    a. **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 contacted, the most appropriate euthanasia will be administered by the suitably qualified personnel (i.e. cervical dislocation for small vertebrates).

b. **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.

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

In-tact habitat features will be salvaged and relocated to a suitable vegetation zone within the 'Green Zone' on the Site.

Incidental Encounters

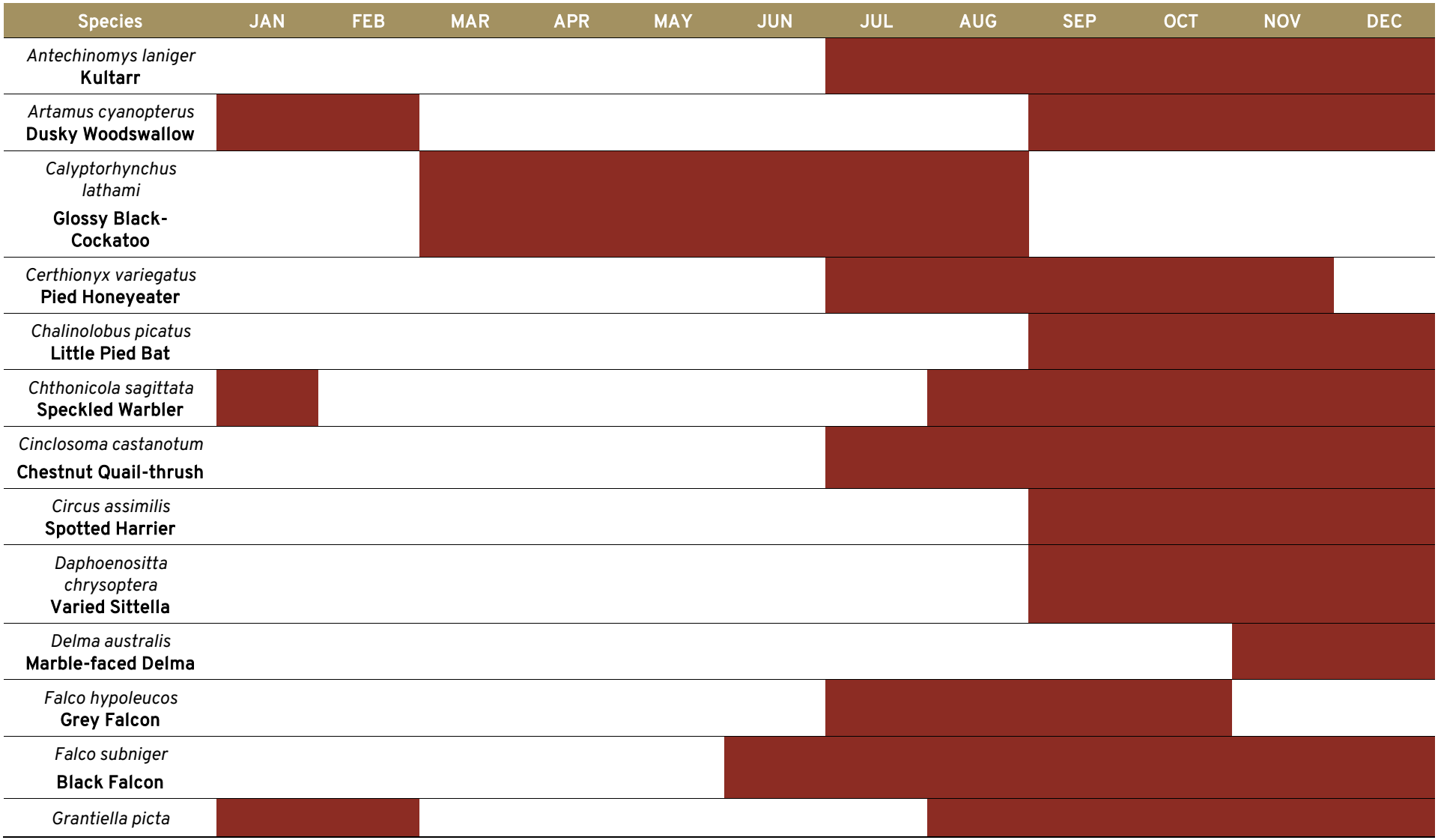
In the event wildlife are injured on the project site during operational activities that have harmed the animal and / or pose risk to site personnel, the following steps shall be undertaken:

1. Personnel will avoid handling wildlife, especially snakes and bats. Fauna handling should only be done by a licenced fauna ecologist or wildlife carer.
2. In the case of injured native fauna contact a nominated animal rescue agency / wildlife care group or veterinarian if an animal is injured.

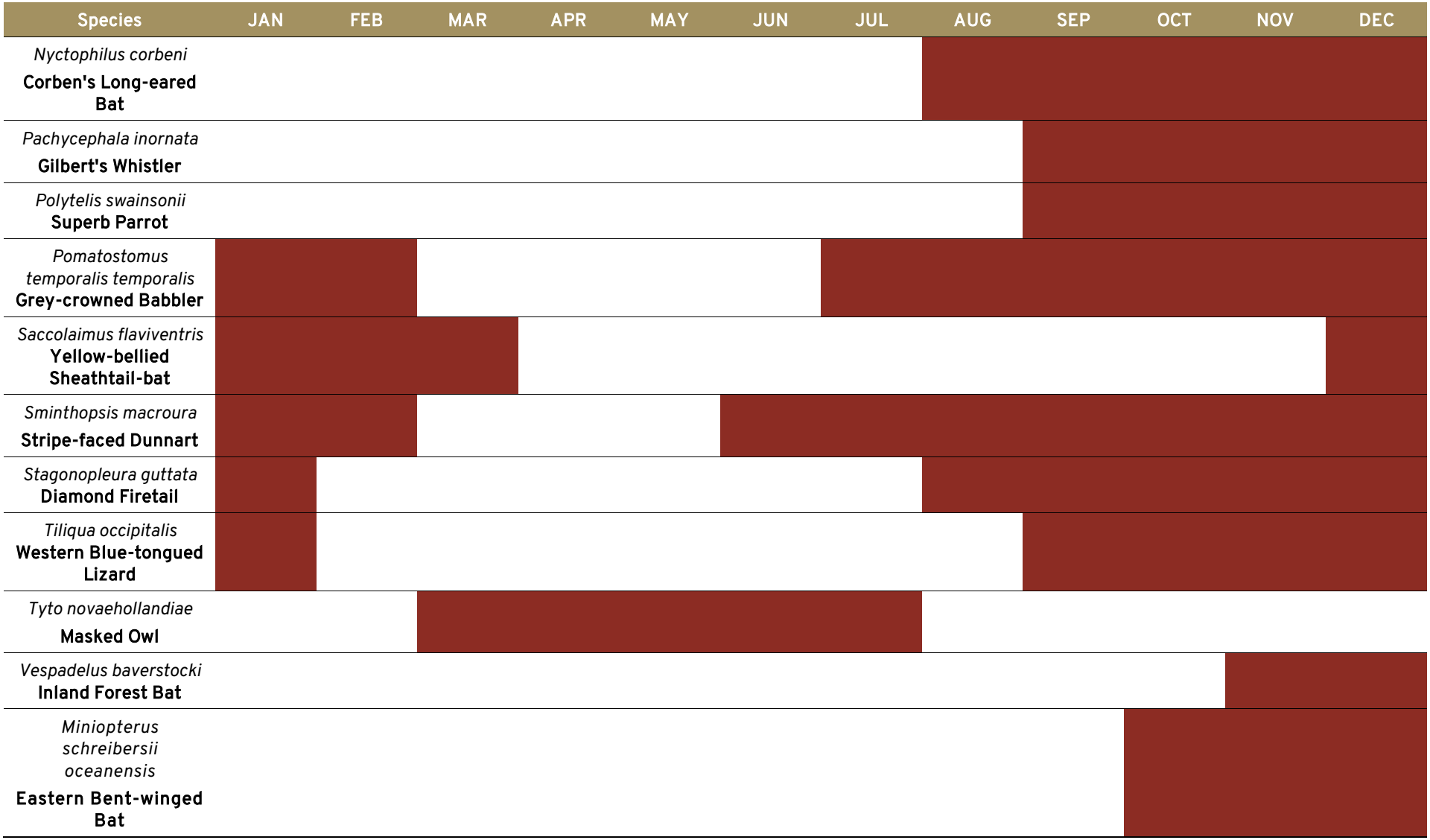
Agency	Contact number
WIRES	1300 094 737

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

APPENDIX F
THREATENED FAUNA KEY BREEDING SEASONS



Species	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Painted Honeyeater	■	■						■	■	■	■	■
Hamirostra melanosternon **Black-breasted Buzzard**							■	■	■	■	■	■
Hieraaetus morphnoides **Little Eagle**								■	■	■	■	■
Hirundapus caudacutus **White-throated Needletail**		*(breeds in Asia)*										
Hylacola cautus **Shy Heathwren**								■	■	■	■	
Leipoa ocellata **Malleefowl**	■	■	■	■				■	■	■	■	■
Lophochroa leadbeateri **Major Mitchell's Cockatoo**								■	■	■	■	■
Lophoictinia isura **Square-tailed Kite**								■	■	■	■	■
Melanodryas cucullata **Hooded Robin**							■	■	■	■	■	
Melithreptus gularis gularis **Black-chinned Honeyeater**							■	■	■	■	■	■
Neophema pulchella **Turquoise Parrot**								■	■	■	■	■
Ningaui yvonneae **Southern Ningaui**	■	■							■	■	■	■
Ninox connivens **Barking Owl**								■	■	■		


Species
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Nyctophilus corbeni
Corben's Long-eared Bat
Pachycephala inornata
Gilbert's Whistler
Polytelis swainsonii
Superb Parrot
Pomatostomus temporalis temporalis
Grey-crowned Babbler
Saccolaimus flaviventris
Yellow-bellied Sheathtail-bat
Sminthopsis macroura
Stripe-faced Dunnart
Stagonopleura guttata
Diamond Firetail
Tiliqua occipitalis
Western Blue-tongued Lizard
Tyto novaehollandiae
Masked Owl
Vespadelus baverstocki
Inland Forest Bat
Miniopterus schreibersii oceanensis
Eastern Bent-winged Bat

APPENDIX G
UNEXPECTED FINDS PROCEDURE

Purpose

This procedure explains the actions to be undertaken in the event threatened species, populations, or communities are unexpectedly identified on Site.

This may occur where:

- A known species / ecological community that occurs on Site is listed as threatened under the NSW *Biodiversity Conservation Act 2016*.
- Environmental management actions improve the habitat suitability on Site such that a new population of a threatened species occurs on Site.
- Changes to the local climate change the habitat suitability on Site such that a new population of a threatened species occurs on Site.
- A threatened species occurs on Site, but has not been recorded during the environmental impact assessment for this project.

Unexpected Finds Procedure

If a suspected threatened entity is unexpectedly identified on the Site in the ADA:

1. Stop work and take measures to protect / avoid the threatened entity.
2. Notify the Biodiversity, Conservation and Science Directorate (BCS) of the NSW DCCEEW and request advice for the appropriate management of the threatened entity.
3. Engage an ecologist to assess the risk to the threatened entity and provide recommendations for management. *
4. Submit a tailored management plan for the threatened entity to the relevant NSW environment agency for approval.
5. Review the Construction Environmental Management Plan for consistency with the management plan and make any necessary adjustments to the construction methodology.
6. Implement the management plan for the threatened entity.
7. Resume work and monitor for any potential impacts to the threatened entity – if unexpected impacts to the threatened entity occur, stop work, and return to Step 2.

*In regards to threatened flora, the ecologist should consider the appropriateness of installing exclusion fencing for any threatened flora plants/population found based on its specific ecological requirements. If exclusion fencing is installed and risks are identified as a result of its installation, provision will be made to manage biomass within the fenced area.