



Winu Copper and Gold Mine (Winu Project) Offsets Strategy

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Winu Services Pty Ltd

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Definitions

Term	Definition
Critical Habitat	Habitat critical to the survival of the species as defined within the <i>Significant Impact Guidelines 1.1 - Matters of National Environmental Significance</i> (Department of the Environment (DotE), 2013).
Development Envelope	Refers to the combined areas of the Winu Project, i.e. the Mine and Infrastructure Area (MIA), Road Access Corridor (RAC) and Rimfire borefield in which the impact area will be located.
Impact Area	The 4,878 ha area of land within the Development Envelope which will be disturbed as part of the Project.
Matters of National Environmental Significance (MNES)	Environmental values protected under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> . Significant impacts to these values may require offsets.
Proposed Greater Offset Area	The area in which Offset Projects will be implemented on the Nyangumarta Warrarn Indigenous Protected Area and Martu Indigenous Protected Area (together the “IPAs”).
Offset Management Plan	A document that details how the Offset Projects will be implemented.
Offset Projects	Projects that focus on threat abatement and research priorities within the Offset Area.
Offset Area	The location of the Offset Projects within the Proposed Greater Offset Area
Offset Strategy	This document which outlines the framework proposed to deliver measurable conservation gains that will offset and mitigate the environmental impacts of the Winu Mine operations
Recovery Plan	The national <i>Recovery Plan for the Greater Bilby (Macrotis lagotis)</i> (Department of Climate Change, Energy, the Environment and Water, 2023).
Suitable habitat	A species’ preferred environment required to sustain a viable population. Suitable habitat may include breeding, dispersal, foraging and shelter resources for fauna.
The Project	The Winu Mine development, which involves the development of a single open pit mine and associated waste rock landform, tailings storage facility, processing plant, stockpiles and supporting infrastructure.

Abbreviations

Abbreviation	Description
BC Act	Western Australia Biodiversity and Conservation Act 2016
CPI	Perth Consumer Price Index
DBCA	Western Australia Department of Biodiversity, Conservation and Attractions
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DPIRD	Western Australia Department of Primary Industries and Regional Development
DSEWPac	Former Commonwealth Department of Sustainability, Environment, Water, Population and Communities
DWER	Western Australia Department of Water and Environmental Regulation
E2M	E2M Pty Ltd
EOC	Environmental Offsets Calculator
EIS	Environmental Impact Statement
EOP	<i>Western Australia Environmental Offsets Policy</i>
EP Act	Western Australia <i>Environmental Protection Act 1986</i>
EPA	Environmental Protection Authority of Western Australia
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPBC EOP	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999 Environmental Offset Policy</i>
ha	Hectares
IBRA	Interim Biogeographic Regionalisation of Australia
IPA	Indigenous Protected Area
km	Kilometres
MNES	Matters of National Environmental Significance
Mtpa	Million tonnes per annum
OAG	Offset Assessment Guide calculator
OMP	Offset Management Plan
RAC	Road Access Corridor (main access road)
Rio Tinto	Rio Tinto Winu Pty Ltd
WA	Western Australia

1 Introduction

1.1 Project overview

Rio Tinto Winu Pty Ltd (herein referred to as Rio Tinto) is proposing to develop a new copper-gold mine (the Project) within a mineralised copper-gold deposit in the Great Sandy Desert region of Western Australia (WA) (**Error! Reference source not found.**). The Project is located approximately 320 km east of Port Hedland in both the Nyangumarta People's and Martu People's Native Title Determination Areas. The Project is anticipated to have an operational life of approximately 32 years.

The Project involves developing an open pit that extends below water table and associated infrastructure, including material waste and waste management infrastructure, ore processing facilities, mine dewatering infrastructure, water supply infrastructure, linear infrastructure and support facilities such as an air strip and worker accommodation. The disturbance of 4,878 ha will be undertaken within the Development Envelope (DE) that spans 23,649 ha.

Numerous flora and fauna surveys have been undertaken within the DE with results from all surveys consolidated and detailed in the *Winu Project Vertebrate Fauna Consolidation Report* (Biota Environmental Sciences, 2025b) and the *Consolidated Detailed Flora and Vegetation Assessment of the Winu Project* (Western Botanical, 2025). These studies have confirmed the known or potential presence of 19 significant species and 12 threatened and/or migratory fauna species that are Matters of National Environmental Significance (MNES) protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and/or priority species listed under the *Western Australia Biodiversity Conservation Act 2016* (BC Act).

Rio Tinto has undertaken several measures to avoid and reduce impacts to state and Commonwealth listed flora and fauna. Most significantly, the broader DE has been designed to avoid the more sensitive environmental areas for key MNES, including a reduction in the Project footprint in order to avoid areas of current greater bilby (*Macrotis lagotis*) occupation and active burrows, a diversion of the main access road to avoid black-footed wallaby (*Petrogale lateralis*) habitat, and the exclusion of all mapped night parrot (*Pezoporus occidentalis*) habitat within the DE.

Despite these measures, the proposed disturbance is expected to result in significant residual impacts on the greater bilby and five state-listed priority species; brush-tailed mulgara (*Dasycercus blythi*), northern marsupial mole (*Notoryctes caurinus*), Dampierland plain slider (*Lerista separanda*), spectacled hare-wallaby (*Lagorchestes conspicillatus leichardti*), and western pebble-mound mouse (*Pseudomys chapmani*), due to the clearing of critical habitat. Habitat for the greater bilby supports the majority of the impacted priority species, enabling a coordinated offset strategy based on shared habitat and threats. The exception is the western pebble-mound mouse, which occupies a distinct habitat type. Approximately 4,498 ha of habitat for the co-located species and an additional 238 ha for the western pebble-mound mouse are proposed to be impacted, with significant residual impacts considered likely. As outlined in the *Environmental Review Document - Winu Project Draft* (Rio Tinto Winu Pty Limited, 2025), these impacts will require offsets under both State and Commonwealth legislation.

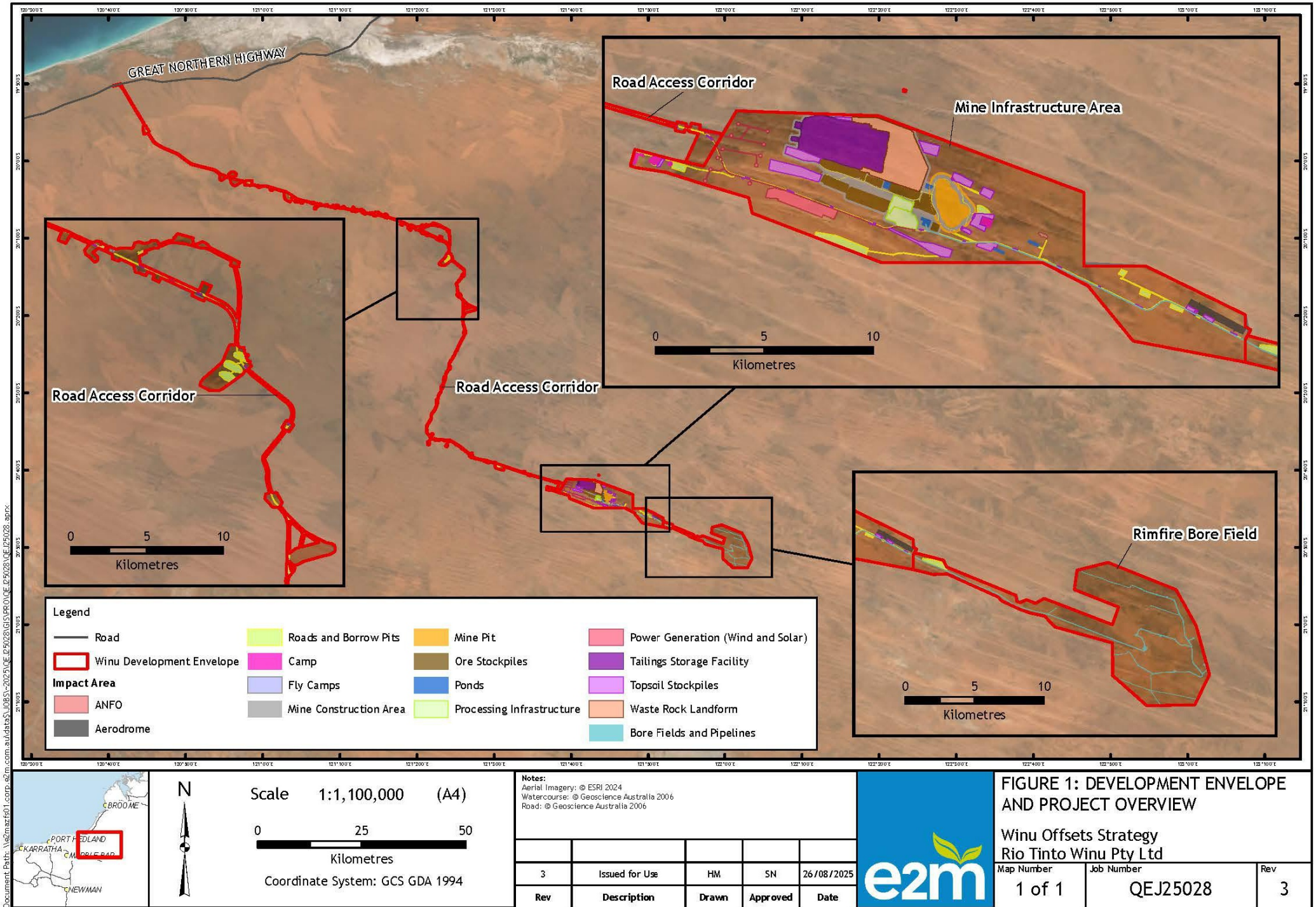
In addition to fauna assessments, comprehensive botanical surveys have been undertaken to characterise the flora and vegetation communities across the Winu Project area. The Winu Project, situated within the Great Sandy Desert and Dampierland bioregions, supports flora typical of sand dunes, interdunal plains, stony rises, and claypans. A total of 338 flora species from 147 genera and 52 families have been recorded, with 68 species representing significant range extensions. While no Threatened (Declared Rare) flora or Threatened or Priority Ecological Communities (TECs or PECs) were found within the Study Area, eleven Priority flora species (BC Act) were identified, including *Cynodon anisocarpus* (P1), which is rare in

Western Australia. A total of 41 vegetation associations have been mapped across four major landform types, and this vegetation is largely in excellent condition, with minimal weed presence. Extensive surveys since 2017, conducted under varying climatic conditions, have significantly improved understanding of regional flora, including the discovery of a taxonomically interesting variant of *Amphipogon caricinus*. Additionally, 41 flora species of ethno-botanical significance have been recorded, all considered common and widespread. The closest PEC, the Eighty Mile Beach Land System, lies approximately 7 km from the northern boundary of the DE. Overall, the flora and vegetation are representative of the broader Great Sandy Desert bioregion, with no significant vegetation constraints identified within the DE. Implementation of this offset strategy is expected to yield indirect ecological benefits for flora, primarily through enhanced fire control and pest management practices.

1.2 Objectives

This Offset Strategy describes the framework proposed to deliver a conservation gain to acquit Project related impacts to the Commonwealth listed greater bilby, and state-listed priority species, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, spectacled hare-wallaby and western pebble-mound mouse. The framework detailed within this Offset Strategy identifies the key actions, stakeholders, timetable, indicative budget and outcomes for relevant protected matters in accordance with the requirements of the Commonwealth *Environmental Offsets Policy* (EPBC EOP) (DSEWPac, 2012) and the *Western Australia Environmental Offsets Policy* (WA EOP) (EPA, 2014). This Offset Strategy specifically targets conservation outcomes through on-ground habitat management, condition enhancement, and proactive monitoring programs designed to deliver measurable gains.

It is anticipated the framework and concepts provided within this Offset Strategy will inform the development of an Offset Management Plan (OMP) for approval. During the next stage of assessment, the OMP will be developed to include specific Offset Project locations, on ground data, performance metrics, and tailored management strategies to ensure optimal outcomes.



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2 Legislative context

Environmental offsets are actions that provide environmental benefits which counterbalance the significant residual environmental impacts or risks of a project or activity that remain after mitigation (including rehabilitation) (DSEWPac 2012a). Offsets may be conditioned as part of Commonwealth and/or State Government approval for a project.

2.1 Commonwealth offsets

Under the Commonwealth offsets framework, offset are delivered in accordance with the EPBC EOP, where compensatory measures are required for a project that will result in a significant residual impact to MNES.

Environmental offsets under the EPBC EOP consist of:

- **Direct offsets:** actions that provide a measurable conservation gain for an impacted protected matter (i.e. MNES) and may include improving existing habitat, creating new habitat, reducing threats or averting loss of a protected matter.
- **Other compensatory measures:** comprises actions that do not directly offset impacts but are anticipated to lead to benefits for an impacted matter, such as through research or educational programmes; and
- **Advanced offsets:** offsets for a potential future use (prior to impacts being undertaken) to better manage the risks associated with the time delay in realising the conservation gain for a protected matter.

Under the EPBC EOP, a minimum of 90 per cent of offset acquittal for a project should comprise direct offsets.

2.2 State offsets

The WA environmental offsets framework comprises the WA EOP and the *WA Environmental Offset Guidelines* (Environmental Protection Authority (EPA) of Western Australia, 2014).

In WA, environmental offsets are applied:

- to projects subject to environmental impact assessment significant proposals, defined under Part IV of the *Environmental Protection Act 1986* (EP Act); and
- as a condition of permits for clearing of native vegetation under Part V of the EP Act (Government of Western Australia, 2024).

Environmental offsets under the WA environmental offsets framework generally comprise three types, as detailed within the *WA Environmental Offset Guidelines*, namely:

- **Land acquisition offsets:** securement of land and on-going management to protect and improve environmental values present
- **On-ground management:** comprises management actions, such as revegetation and rehabilitation, that results in tangible improvement to environmental values impacted by a project; and
- **Research projects:** research that can add significant value to the outcomes of on-ground management and the understanding of the environmental value being impacted. The research must typically be

designed to result in positive conservation outcomes for existing conservation estates or add to existing State Government initiatives, policies or strategies.

2.2.1 Bilateral agreements

When a project impacts MNES under the EPBC Act, the Commonwealth Government may impose environmental offsets as part of its approval conditions. In WA, as in other states with bilateral agreements, environmental assessments can be streamlined through a single process. Proponents must refer their proposals simultaneously to both the WA Department of Water and Environmental Regulation and the Commonwealth Department. This concurrent referral enables a coordinated assessment that satisfies both state and federal legislative requirements, reducing duplication and supporting more efficient decision-making (DSEWPaC 2012b; EPA 2014).

According to the WA Environmental Offsets Guidelines, when state and Commonwealth environmental values overlap, WA government agencies aim to work collaboratively with the Commonwealth to align offset requirements and minimise duplication wherever practicable. For example:

- If the Commonwealth has already assessed the project and applied offsets, the State may consider these offsets as contributing to its own requirements.
- Where the project is assessed under a bilateral agreement, formal consultation mechanisms support alignment of offset conditions.
- In cases of parallel assessments under the EP Act and EPBC Act, agencies will consult to harmonise offset requirements as much as possible.

As this project is proceeding through a parallel assessment process, it is expected that WA agencies will continue to engage with the Commonwealth to align offset requirements and avoid unnecessary duplication, consistent with the principles outlined above.

2.3 Considering environmental offsets at a regional scale

2.3.1 Assessment against the EPA's Public Advice

This Strategy has been developed with regard to the EPA's Public Advice: Considering environmental offsets at a regional scale, noting the regional nature of the proposed offset delivery. The offset approach is designed to contribute to regional-scale protection and enhancement by aligning with Indigenous Protected Area management frameworks and the Recovery Plan for the Greater Bilby, focusing on landscape-scale threat abatement and long-term strategic outcomes within the Great Sandy Desert bioregion. Consistent with the EPA advice, the Offset Management Plan will (i) articulate how offset actions improve resilience, connectedness and habitat function; (ii) include targeted monitoring, evaluation and reporting that demonstrates traceability from actions to outcomes; and (iii) identify opportunities for restoration trials and region-building knowledge outcomes, with appropriate transparency of results.

An assessment against the EPA Public Advice: Considering environmental offsets at a regional scale (March 2024) is outlined below, including Guiding values in Table 1 and Recommended priorities in Table 2.

Table 1: Assessment against EPA (2024) Public Advice - Considering environmental offsets at a regional scale (guiding values)

EPA guiding value	Relevance to Winu offset approach	Current alignment in this Offset Strategy
1. Restoration	EPA expects offsets to identify achievable restoration opportunities (not only protection/averted loss) and apply science-based completion criteria to support nature positive outcomes.	Current strategy focuses on landscape-scale threat abatement (predator control, fire management, engagement) and notes restoration/rehabilitation is not a primary focus given intact/high-quality condition in the target landscape.
2. Regional scale management	EPA expects offsets to align with regional plans/reserve management/recovery plans and manage threatening processes in a coordinated way (including across tenures).	Offset delivery is focused within the Nyangumarta Warrarn IPA and Martu IPA and is explicitly intended to align with IPA management plans and the Greater Bilby Recovery Plan (adopted as the guiding framework for actions).
3. Resilient systems	EPA expects offsets to build and maintain ecosystem resilience, including linkages/buffers and consideration of climate resilience where relevant.	Strategy is framed around long-term, landscape-scale outcomes supported by monitoring, evaluation and adaptive implementation through the OMP.
4. Expanding scientific knowledge	EPA expects offsets to contribute to regional scientific knowledge via targeted research/knowledge-gap work and transparent reporting of outcomes.	Strategy commits to monitoring, evaluation, reporting and adaptive management through annual and periodic review processes implemented via the OMP.
5. Like-for-like / like-for-similar values	EPA preference is like-for-like; like-for-similar only where a regional benefit is demonstrated.	Strategy is designed to deliver direct, on-ground management actions targeting threats relevant to the impacted species/habitats via a managed fund model, with outcomes to be detailed in project proposals and the OMP.
6. Connectedness	EPA expects offsets to prioritise connectedness of ecological functions (buffers, linkages, habitat function continuity).	Strategy focuses delivery within large, regionally significant IPAs and prioritises landscape-scale management actions suitable for broad habitat function outcomes.

EPA guiding value	Relevance to Winu offset approach	Current alignment in this Offset Strategy
7. Co-benefits for social surroundings	EPA expects offsets to prioritise co-benefits (cultural/social) developed through consultation with Traditional Owners/community.	Strategy explicitly positions Traditional Owner and Ranger collaboration as central to delivery, including governance and on-ground implementation, creating meaningful co-benefits.

An assessment against EPA (2024) Public Advice - Considering environmental offsets at a regional scale (Recommended priorities) is outlined in Table 2.

Table 2: Assessment against EPA (2024) Public Advice - Considering environmental offsets at a regional scale (recommended priorities).

EPA recommended priority	Relevance	Current alignment in this Offset Strategy
1. Land availability and security	Emphasises early identification and securing of offsets for protection/enhancement at a regional scale.	The Strategy proposes delivery within existing IPAs, supported by defined governance arrangements and a managed fund model. Enduring security mechanisms for Offset Areas (e.g. legal protection and long-term management arrangements) will be formalised and verified through the OMP and associated approval framework, including audit and reporting provisions.
2. Regional plans & recovery plans	Offsets should be strategically located to maximise regional benefit and avoid perverse outcomes (e.g., fragmentation).	Offset actions are aligned with relevant IPA management plans and the Greater Bilby Recovery Plan. Offset projects will be co-designed with IPA groups, with project selection criteria requiring demonstration of strategic regional benefit, including avoidance of fragmentation and, where practicable, enhancement of buffers, linkages and landscape connectivity.
3. Monitoring and transparency	Prioritises collection and publication of regional data and transparency of offsets outcomes.	The Strategy provides for annual reporting and periodic performance evaluation through the OMP framework. Consistent with cultural and confidentiality constraints, non-sensitive monitoring results and summaries will be made publicly available to support transparency and regional learnings.
4. Holistic values mapping	Mapping of ecological functions and values to identify holistic protection needs and connected opportunities.	Offset identification and selection is informed by habitat context, condition and quality inputs used for offset calculations. A high-level holistic screening approach (e.g. threats, habitat function, connectivity and refugia) will be applied during project selection and refined over time as additional regional data becomes available.
5. Research programs	Identify and prioritise information gaps and coordinate research or trials that offsets can support.	The Strategy supports adaptive management and integration with existing research and recovery programs. Priority research questions and governance arrangements (e.g. expert review, reporting requirements) will be defined through Offset Project Proposals and implemented via the

EPA recommended priority	Relevance	Current alignment in this Offset Strategy
		OMP, supporting continuous improvement in offset effectiveness.
6. Advanced offsets	Support early or advanced offsets and clearly defined completion criteria for restoration outcomes.	The Strategy includes an upfront funding profile and staged implementation model, enabling early delivery of offset actions. Where practicable and subject to approvals, early implementation measures (e.g. baseline monitoring and early threat abatement prior to disturbance) will be undertaken, with defined milestones, performance criteria and completion benchmarks established through the OMP.
7. Roles in delivering outcomes	Clarifies shared roles in identification, development, implementation and monitoring, while retaining proponent accountability.	Governance arrangements, roles and reporting pathways are clearly defined, with Rio Tinto retaining overall accountability and delivery supported by Traditional Owners, delivery partners and specialists as appropriate. A concise RACI-style summary will be incorporated within the OMP to support role clarity, accountability and auditability.

3 Project impacts

The DE has been subject to extensive environmental surveys since 2018 and which are ongoing, to define the environmental values of the area. A summary of the survey effort within the DE are outlined in the *Environmental Review Document - Winu Project Draft* (Rio Tinto Winu Pty Limited, 2025) and the *Winu Project Night Parrot Impact Assessment* (Biota Environmental Sciences, 2025a).

The following sections provide an overview of the regional context to which the Project is located and the associated impacts that are likely to result from the Project.

3.1 Regional biodiversity context

WA has been divided into bioregions based on broad landscape patterns reflecting geology, climate and fauna and flora assemblages through the Interim Biogeographic Regionalisation of Australia (IBRA). The Project traverses WA's Great Sandy Desert bioregion, an overview of which is provided below.

3.1.1 Great Sandy Desert

The Great Sandy Desert bioregion features expansive red sand plains, extensive dune fields, and scattered rocky outcrops (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2024). Its predominant vegetation includes spinifex grasslands, sparse woodlands, and shrubby vegetation. Land ownership consists of unallocated crown land, conservation reserves, and Aboriginal land overlain by pastoral leases and mining tenure, supporting key industries such as tourism, mining, and mineral exploration (DCCEEW, 2024). Encompassing approximately 395,250 km², this bioregion is situated in the north-east of WA, bordering the Pilbara and southern Kimberley regions, and extending into the Northern Territory (DCCEEW, 2024).

The most widespread vegetation type in the Great Sandy Desert is hummock grassland, which covers over 92% of the bioregion on sand-plains, dunes and lateritic plains (Van Etten, 2020). The grasslands are dominated by the genus *Triodia*, commonly known as hummock grasses or spinifex. Sparse to very sparse trees and shrubs containing *Owenia reticulata*, *Allocasuarina decaisneana*, *Corymbia spp.*, *Eucalyptus spp.*, *Acacia spp.*, *Grevillia spp.* and *Hakea spp.* are also present within these grasslands (consequently they are rarely pure grasslands) (Van Etten, 2020).

3.1.2 Dampierland

The Dampierland bioregion, covering approximately 83,460 km² along the northwest coast of Western Australia, is characterised by extensive plains, ranges, and gorges. Vegetation is dominated by acacia thickets interspersed with grasslands and savannas. Land tenure includes Aboriginal land, pastoral leases, and conservation reserves, with key industries comprising beef cattle production, horticulture, and tourism. The region experiences a semi-arid to tropical monsoonal climate, with Broome, Derby, and Fitzroy Crossing as major population centres (DCCEEW, 2008).

3.2 Significant fauna species

Significant fauna species listed under the EPBC Act and the Western Australia BC Act that have been recorded, are considered likely to occur, or may occur within the DE and the associated likelihood of significant residual impacts for each are detailed in Table 3 below.

Table 3: Listed fauna species and residual impact likelihood within the Development Envelope

Species	Scientific Name	Conservation Status EPBC Act	Conservation Status WA BC Act	Significant Residual Impact Likely under the EPBC Act? ¹	Significant Residual Impact Likely under the WA BC Act? ¹
Significant Fauna Species					
Night parrot	<i>Pezoporus occidentalis</i>	Endangered	Critically Endangered	No	No
Black-footed rock-wallaby	<i>Petrogale lateralis</i>	Endangered	Endangered	No	No
Grey falcon	<i>Falco hypoleucos</i>	Vulnerable	Vulnerable	No	No
Princess parrot	<i>Polytelis alexandrae</i>	Vulnerable	Not listed	No	No
Northern quoll	<i>Dasyurus hallucatus</i>	Endangered	Endangered	No	No
Greater bilby	<i>Macrotis lagotis</i>	Vulnerable	Vulnerable	Yes	Yes
Migratory Species					
Barn swallow	<i>Hirundo rustica</i>	Migratory	Migratory	No	No
Little curlew	<i>Numenius minutus</i>	Migratory, Marine	Migratory	No	No
Oriental plover	<i>Charadrius veredus</i>	Migratory, Marine	Migratory	No	No
Oriental pratincole	<i>Glareola maldivarum</i>	Migratory, Marine	Migratory	No	No
Pacific swift	<i>Apus pacificus</i>	Migratory, Marine	Migratory	No	No
Priority and Other Significant Species					
Brush-tailed mulgara	<i>Dasycercus blythi</i>	Not listed	Priority 4 (Rare, Near Threatened)		Yes
Northern marsupial mole	<i>Notoryctes caurinus</i>	Not listed	Priority 4 (Rare, Near Threatened)		Yes

Species	Scientific Name	Conservation Status EPBC Act	Conservation Status WA BC Act	Significant Residual Impact Likely under the EPBC Act? ¹	Significant Residual Impact Likely under the WA BC Act? ¹
Western pebble-mound mouse	<i>Pseudomys chapmani</i>	Not listed	Priority 4 (Rare, Near Threatened)		Yes
Dampierland plain slider	<i>Lerista separanda</i>	Not listed	Priority 2 species		Yes
Peregrine falcon	<i>Falco peregrinus</i>	Not listed	Other Specially Protected Fauna		No
Short-tailed mouse	<i>Leggadina lakedownensis</i>	Not listed	Priority 4 (Rare, Near Threatened)		No
Spectacled hare-wallaby	<i>Lagorchestes conspicillatus leichardti</i>	Not listed	Priority 3 - Poorly known species; not formally listed as threatened		Yes

¹ As per the impact assessment in the *Environmental Review Document - Winu Project* (Winu Services Pty Ltd, 2026)

3.3 Fauna habitats

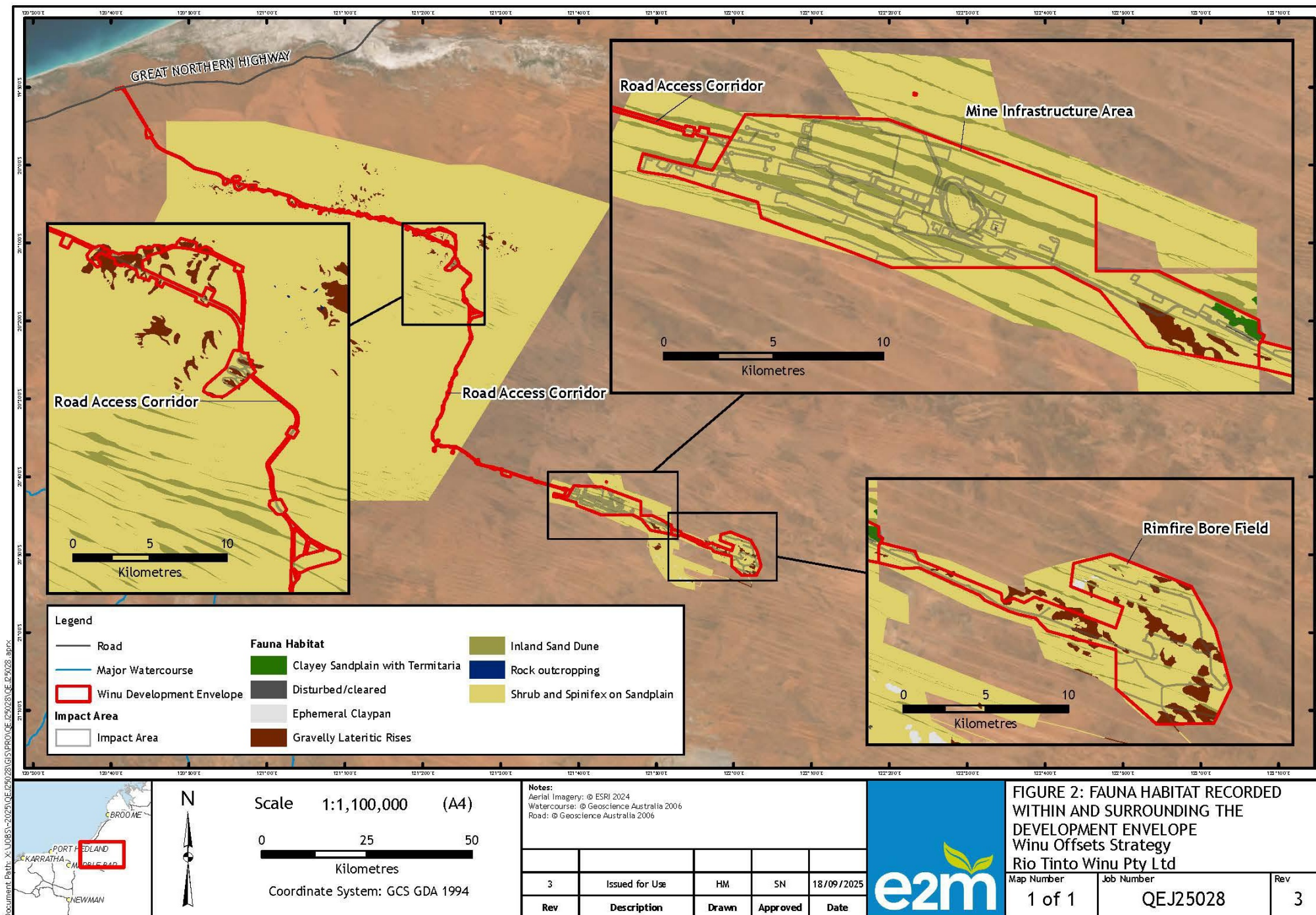
Seven broad fauna habitat types have been mapped within and surrounding the DE as shown in , below. The area of proposed impact for each of these broad habitat types is outlined in Table 4, along with the relevant protected fauna for which a significant residual impact has been assessed as likely (refer Section 3.2). As illustrated in Table 4 habitat for the greater bilby is also habitat for four of the five state-listed priority species. This habitat equates to 4,498 ha, with an additional 238 ha of habitat providing for the western pebble-mound mouse only.

Table 4: Habitat types supporting fauna within and surrounding the Development Envelope

Habitat Type	Description	Critical habitat for protected fauna	Disturbance within Impact Area (ha)
Shrub and Spinifex on Sandplain	These broad plains comprise pink to red pindan soils. The habitat is in excellent condition and supports typical pindan vegetation, comprising occasional trees of species such as <i>Corymbia zygophylla</i> (Broome loddwood), <i>Erythrophleum chlorostachys</i> (Ironwood) and <i>Owenia reticulata</i> (Native Walnut) over open to moderately dense mixed shrublands, typically dominated by wattles (<i>Acacia</i> spp.), over hummock grasslands of <i>Triodia schinzii</i> and <i>T. epactia</i> .	- greater bilby - brush-tailed mulgara - spectacled hare-wallaby - Dampierland plain slider	3,683
Inland sand dune	Substrate consists of red loose sand. The vegetation is dominated by <i>Corymbia chippendalei</i> , <i>Erythrophleum chlorostachys</i> and <i>Owenia reticulata</i> low woodland and scattered trees over mixed <i>Acacia</i> low open shrublands over open hummock grasslands dominated by <i>Triodia schinzii</i> .	- greater bilby - northern marsupial mole	815
Gravelly lateritic rises	Low rises with a surface covering of laterite gravel and pebbles occurred sporadically, supporting open hummock grasslands of <i>Triodia epactia</i> with a low open shrubland of the wattles <i>Acacia hilliana</i> (Hill's Tabletop Wattle) and <i>A. adoxa</i> var. <i>adoxo</i> (Grey Whorled Wattle); taller shrubs were typically sparse but included species, such as <i>Grevillea refracta</i> (Silver-leaf Grevillea) and <i>G. wickhamii</i> (Wickham's Grevillea). Patchily distributed habitat type, although much of its regional extent occurs within the DE and surrounding locality.	western pebble-mound mouse	238
Clayey sand plain with termitaria	The substrate of these plains comprises clayey sand to a loose depth of 2 cm. Vegetation comprising <i>Acacia bivenosa</i> shrubland over <i>Triodia brizoides</i> open hummock grassland.	N/A	39
Ephemeral claypan	Claypans with <i>Eucalyptus</i> spp. scattered low trees and <i>Acacia</i> spp. very open shrubland represents a very small proportion of the Development Envelope. Dominated by <i>Eragrostis</i> sp. grassland. Seasonally inundated	N/A	-

Habitat Type	Description	Critical habitat for protected fauna	Disturbance within Impact Area (ha)
Rocky outcroppings	Patchily distributed and occurs as rock piles, rocky ridges and breakaway landforms.	N/A	-
Disturbed / cleared/no habitat	Areas that have been cleared or disturbed and were largely or entirely devoid of native vegetation.	N/A	102
TOTAL			4,878

Source: (Rio Tinto Winu Pty Limited, 2025)



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3.4 Significant residual impacts to MNES

Despite the implementation of avoidance and mitigation measures, the proposed action is predicted to have significant residual impact on the greater bilby due to clearing of up to 4,498 ha of habitat critical to the survival of the greater bilby. These impacts are outlined in Section 3.4.1.2.

For all other MNES considered to potentially occur within the DE, the residual impacts of the proposed action are not considered significant as outlined in the *Environmental Review Document - Winu Project* (Rio Tinto Winu Pty Ltd, 2025). Accordingly, environmental offsets are assessed as unlikely to be required for other MNES.

3.4.1 Greater bilby

3.4.1.1 Distribution and habitat

The distribution of the greater bilby once comprised the arid and semi-arid regions throughout most of Australia but is now patchily distributed through parts of the Tanami Desert in Northern Territory, west to Broome and south to Warburton in WA (Baker & Gynther, 2023). In the northern portion of WA, suitable habitat for the greater bilby includes:

- woodlands (<1 m) with *Eucalyptus* and *Acacia* spp.
- Pindan woodlands with hummock and tussock grass, on coarse sand to light medium clay
- low shrub cover of *Acacia* spp. over hummock and tussock grasses, on sandy soils, loams and red earth, and
- spinifex grasslands with low shrub cover of *Acacia* and *Melaleuca* spp. on sandy and sandy loam soils (DCCEW, 2023).

Combined, these habitat types encompass over 92% of the Great Sandy Desert Bioregion (Van Etten, 2020). As a general framework, critical habitat for the greater bilby (*Macrotis lagotis*) may be defined to include:

- areas outside the known or likely distribution where the species has been observed
- regions between these known areas that may be intermittently occupied, and
- locations that the species could naturally colonise or where reintroduction is feasible.

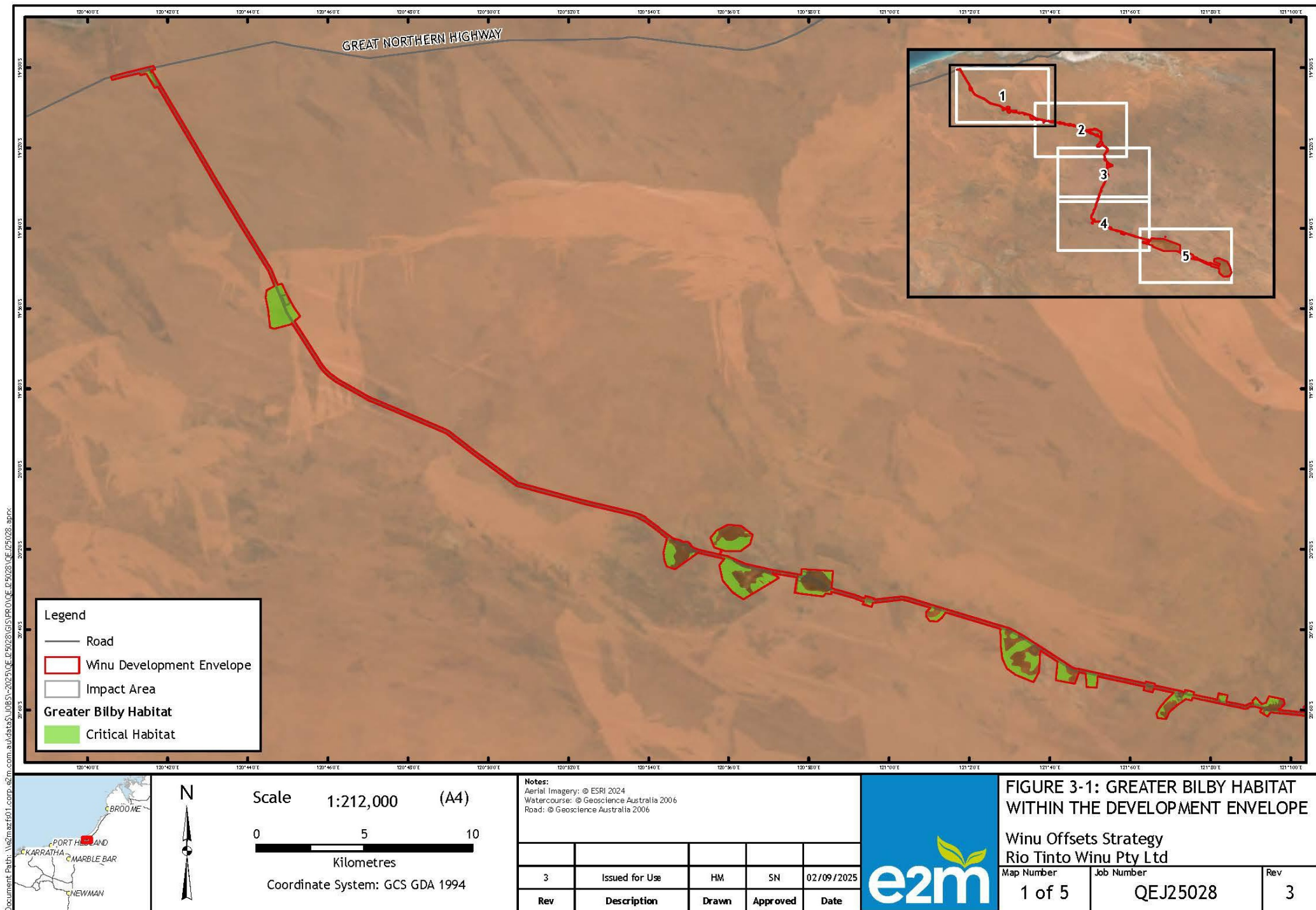
Critical habitat for the greater bilby spans a diverse range of land tenures and ownerships, including Indigenous-owned or managed lands, private properties, leaseholds, travelling stock routes, unallocated Crown land, national parks, nature conservation reserves, and other lands designated for conservation (DCCEW, 2023).

3.4.1.2 Habitat within the Development Envelope

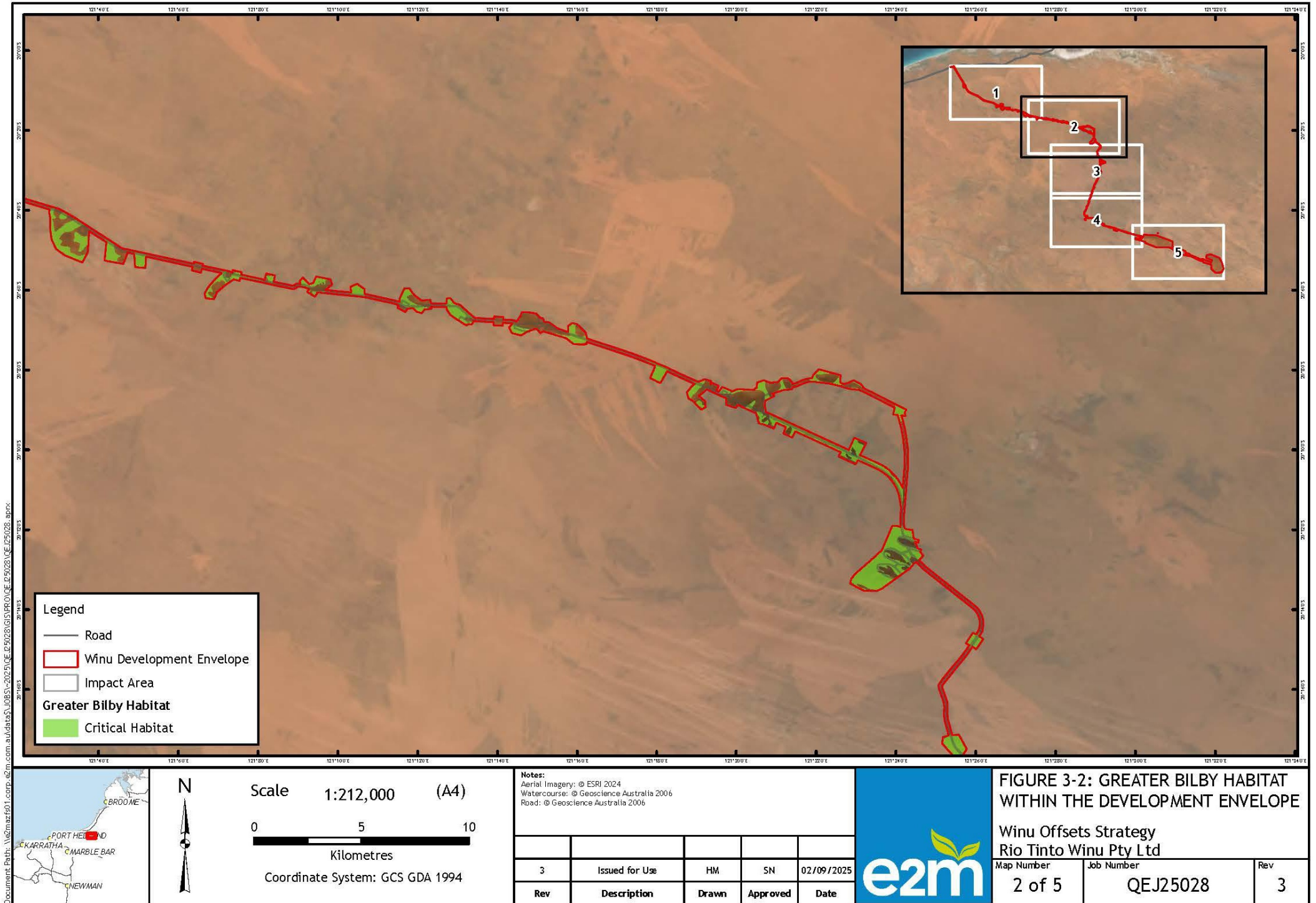
Secondary evidence of the greater bilby, i.e. burrows, scats, and foraging diggings, was identified at the western and eastern ends of the DE, as well as within the Rimfire pipeline corridor and to the south of Rimfire corridor in shrub and spinifex on sandplain habitat. Additional signs of greater bilby activity were also recorded at several locations in the surrounding area of the DE (Biota Environmental Sciences, 2025b).

Habitat for the greater bilby throughout the DE is shown in Figure 3 and includes habitat of varying suitability. The criteria used to assess the greater bilby habitat within the DE can be found in Appendix 5, Table 3.7 of the *Winu Fauna Consolidation Report* (Biota Environmental Sciences, 2025b).

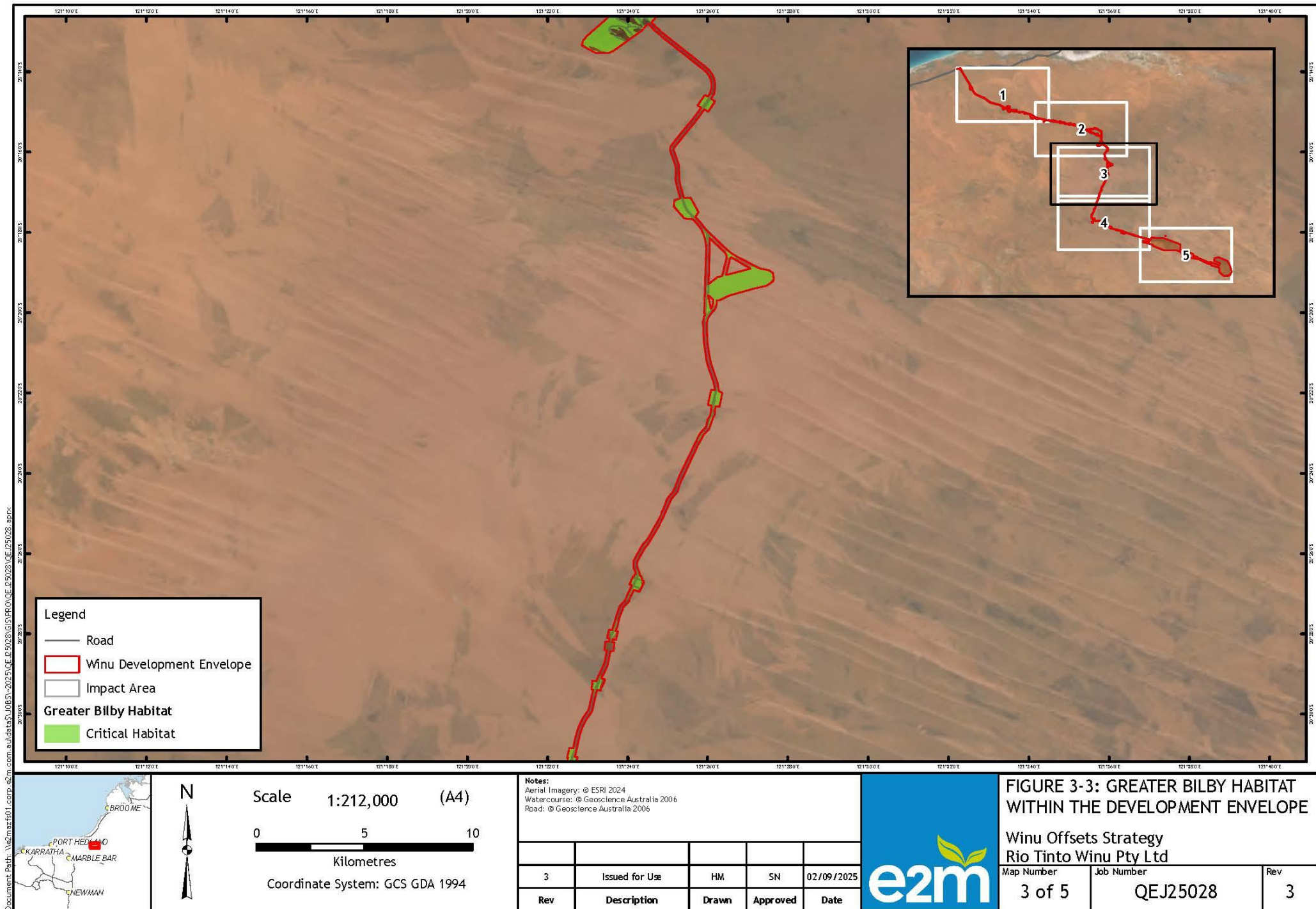
All habitat types identified within Figure 3 below are considered consistent with the definition of habitat critical for the survival of the greater bilby within the *Recovery Plan for the Great Bilby (Macrotis lagotis)* (DCCEEW 2023). The Project will require clearing of up to 4,498 ha of this habitat within the Impact Area.



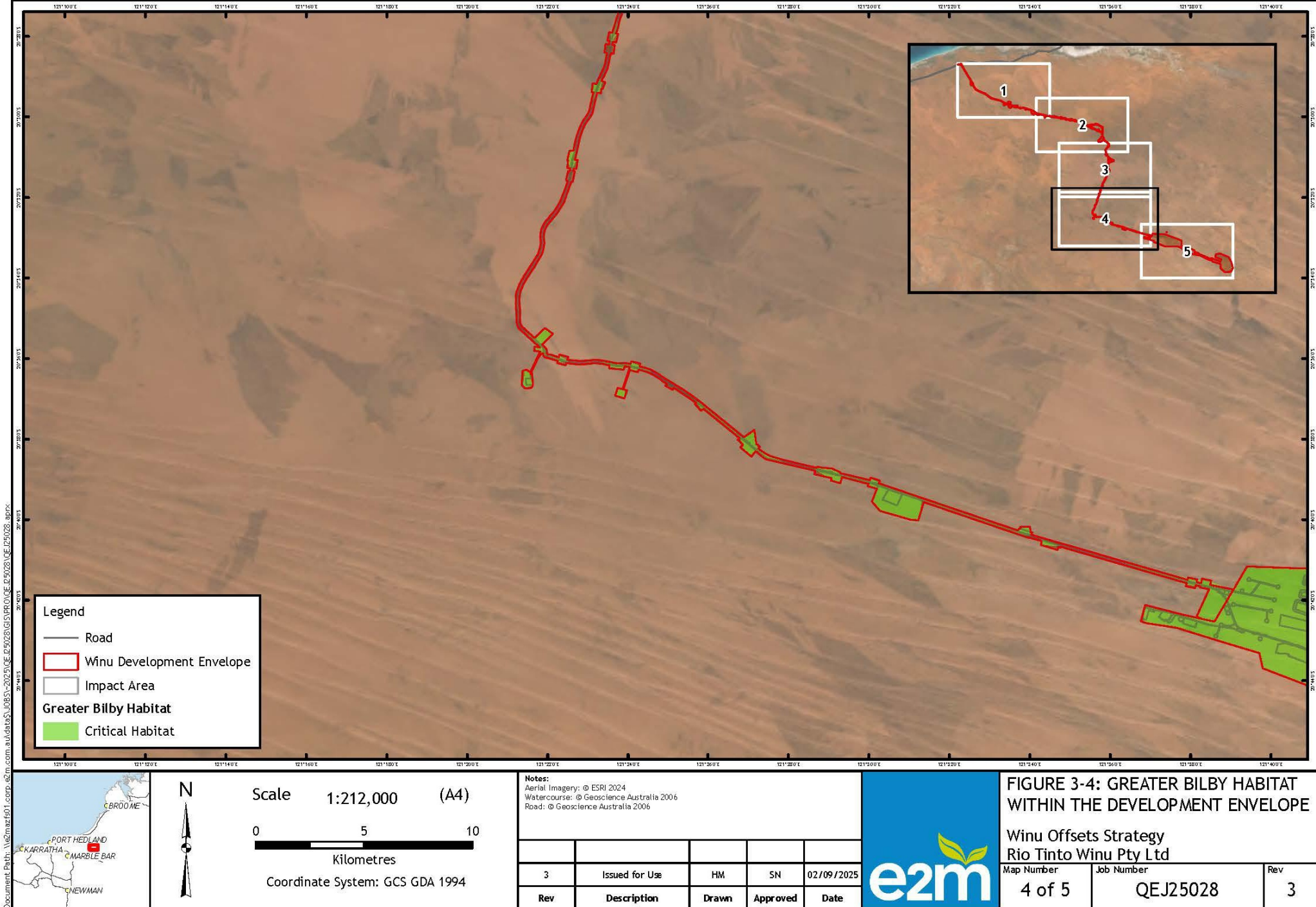
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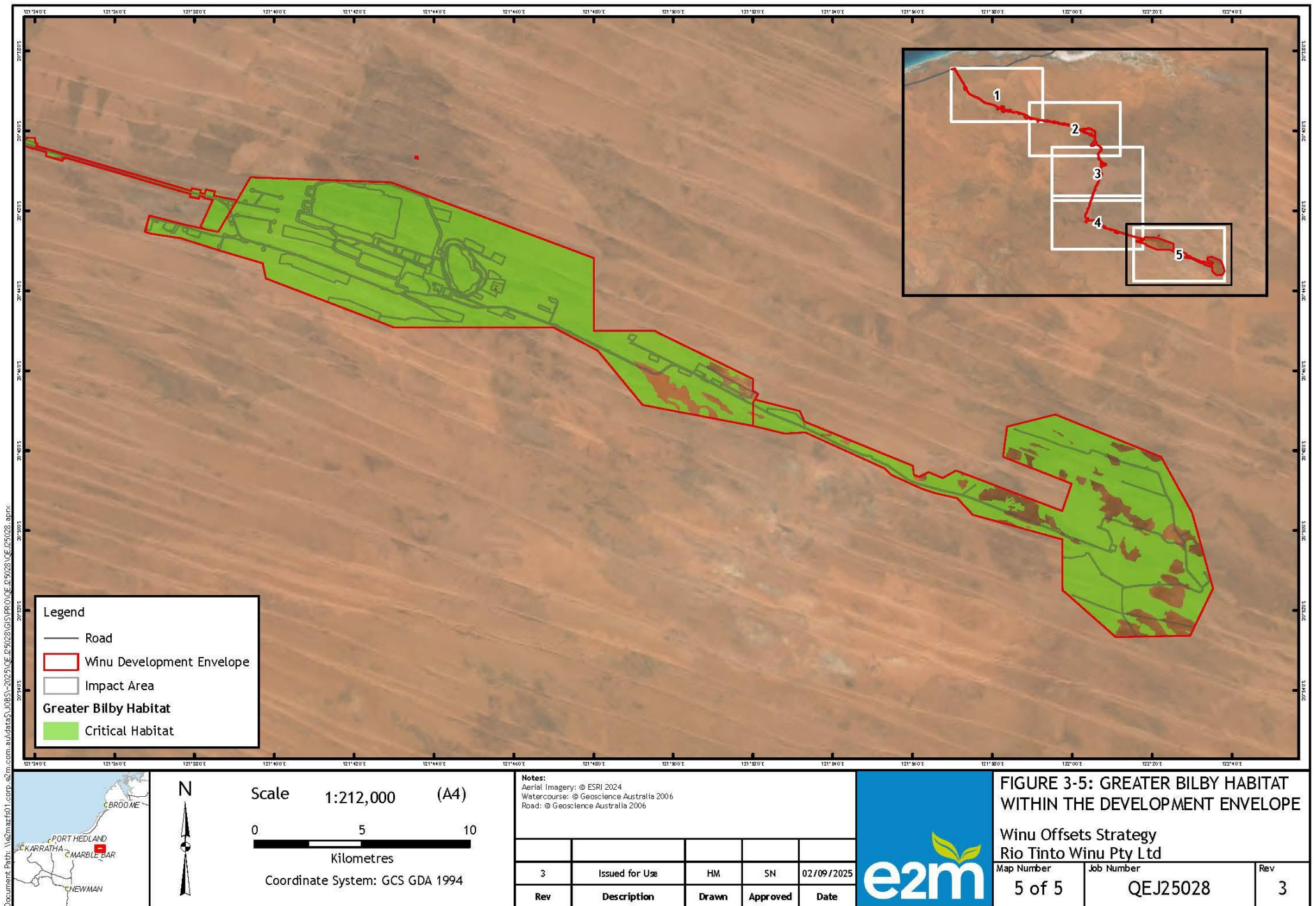
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3.4.1.3 Threats

3.4.1.3.1 Pest fauna

The red fox has potentially had the largest impact on the conservation of the greater bilby (DCCEEW, 2023). Evidence suggests that the presence of red foxes is negatively correlated with the presence of the greater bilby (DCCEEW, 2023). Additionally, a high abundance of rabbits (*Oryctolagus cuniculus*) results in elevated predator densities and leads to increased predation of greater bilbies (DCCEEW, 2023).

Feral cat predation is another major factor associated with the decline of the greater bilby. The greater bilby has not developed innate antipredator behaviours in response to the threat of feral cat predation, as they have had less than 200 years of evolutionary exposure (DCCEEW, 2023).

Introduced herbivores diminish greater bilby populations by degrading their habitat through erosion, compaction, and stripping away vegetation cover (DCCEEW 2023). This degradation limits the greater bilby's access to essential food sources and suitable burrow sites. Moreover, the presence of herbivores boosts predator populations, further endangering the greater bilby. Additionally, these herbivores tend to concentrate in areas like drainage lines, which are frequently vital habitats for greater bilbies (Bradley et al., 2015).

3.4.1.3.2 Altered fire regimes

The relationship between the greater bilby and fire over much of its range is complex, and the absence of active fire management or the prevailing fire regime of an area can determine its suitability as habitat for the greater bilby. Fire can promote the growth of greater bilby food plants, can influence vegetation density by making it more, or less, suitable for greater bilbies, and may influence predator behaviour and predation.

Increased fire size, frequency and intensity is thought to impact desert biodiversity, including in spinifex communities, due to the 'landscape fire age homogeny' created by these events and which is thought to have evolved since European occupation. Historical Indigenous traditional practices were considered conducive to 'pyro-diversity' which created a mosaic landscape of more varied habitats and ecosystem structures and therefore greater resilience of habitats and vegetation communities to wildfire impacts and other natural seasonal and climatic pressures (Department of Climate Change, Energy, the Environment and Water, 2023).

Fire regimes that lead to a decline in biodiversity have been identified as a key threatening process under the EPBC Act. In the context of predation from red foxes and feral cats, changes in fire patterns and a decrease in pyro-diversity poses a threat to the greater bilby. Extensive and intense fires strip vegetation, potentially increasing predation pressure from introduced predators. Furthermore, these fires may disrupt the availability of food resources essential for the species' survival (DCCEEW, 2023).

3.4.1.3.3 Land clearing

Land clearing is known to cause a loss of habitat, degrade surrounding habitat, and increase predation and fragmentation effects for this species (Bradley et al., 2015). Roads, railways, fences, dams, mines, camps, pipelines, agricultural expansion and other industrial infrastructure pose significant threats to the greater bilby (Bradley et al., 2015). These threats include habitat destruction through vegetation clearance, increased frequency of road collisions, fragmentation of habitat hindering dispersal and genetic exchange, and increased predator populations due to enhanced availability of food and water resources (Bradley et al., 2015).

3.4.1.3.4 Pest flora

The impact of weeds on greater bilby remains uncertain. It is possible that declining greater bilby populations is due to weeds influencing alterations in fire patterns, intensity, and coverage. Additionally, there's potential for weeds to outcompete preferred plant species, further increasing the threat to greater bilbies (Bradley et al., 2015).

3.4.1.3.5 Traditional ecological knowledge loss

The prevalence of greater bilby in Traditional owner-managed lands in WA underscores the importance of traditional ecological knowledge, particularly in fire management, for their local survival. The application of traditional ecological knowledge by Traditional owners managing their country, particularly fire, may influence the local persistence of greater bilbies (Bradley et al., 2015). Loss of this knowledge, or reduction in traditional management, may therefore, contribute to the local extinction of greater bilbies and management actions have the potential to be less effective if this local and traditional knowledge is not incorporated (Bradley et al., 2015). Traditional Owner expertise is crucial for implementing successful recovery initiatives. Traditional Owners harbor essential knowledge about greater bilbies, encompassing behaviours and threats, empowering their participation in surveys, monitoring, and management tasks (Bradley et al., 2015).

3.4.1.3.6 Measures to avoid, minimise and/or mitigate impacts

A greater bilby population was identified as occupying the DE, prompting Rio Tinto to implement several measures to avoid and minimise impacts. Most notably, the DE has been strategically re-designed to exclude sensitive environmental areas crucial for this species. This includes a reduction in Impact Area to ensure the avoidance of areas currently occupied by the greater bilby and known active burrows.

To prevent or minimise the loss and degradation of greater bilby habitat associated with the Project, the Winu Environmental Management Plan outlines the following measures (Rio Tinto Winu Pty Ltd, 2025):

- Land clearing will be confined strictly to areas that have received prior approval.
- If active greater bilby burrows are identified during pre-clearance surveys, exclusion zones will be established around them. These zones will remain in effect until one of the following occurs:
 - a qualified fauna specialist has safely relocated the animal, or
 - a fauna spotter confirms that the animal has vacated the area and moved to adjacent suitable habitat, or the burrow is confirmed to be inactive.
- Exclusion zones will be clearly marked with flagging tape before clearing begins and will remain visibly marked throughout the clearing process.

In addition, feral predator control will be implemented to reduce risks; however, some predation pressure is expected to remain. Additionally, alterations to natural fire regimes and interactions with vehicles pose ongoing threats that cannot be fully mitigated.

To minimise potential indirect impacts, several actions will be implemented as follows:

- limiting habitat disturbance and degradation to safeguard fauna populations
- reducing dust-related impacts on existing vegetation and fauna habitat
- minimising disruptions from artificial light and noise to protect wildlife
- preventing the introduction and spread of invasive weeds within the DE
- ensuring rapid response to identified weed infestations to prevent further spread

- controlling the presence of feral animals to reduce their impact on native fauna and habitats
- avoiding alterations to natural bushfire patterns that could affect local ecosystems
- reducing the risk of wildlife interactions with vehicles and machinery to prevent injury or disturbance, and
- preventing harm to conservation-significant fauna by mitigating entrapment risks.

3.5 Significant residual impacts to WA priority-listed species

Although avoidance and mitigation measures have been implemented, the proposed action is predicted to result in significant residual impacts on the brush-tailed mulgara, northern marsupial mole, western pebble-mound mouse, Dampierland plain slider, and the spectacled hare-wallaby, due to clearing of critical habitat for these species.

With the exception of the western pebble-mound mouse, habitat for the greater bilby also provides habitat for these priority-listed species as outlined in Table 4. Approximately 4,498 ha of habitat for the brush-tailed mulgara, northern marsupial mole, Dampierland plain slider and the spectacled hare-wallaby is proposed to be impacted for which a significant residual impact is considered likely. An additional, 238 ha of habitat for the western pebble-mound mouse will be impacted and for which a significant residual impact is also considered likely. Figure 8 below illustrates the delineation between the western pebble-mound mouse habitat and all other habitat relevant to the offset strategy.

As with the greater bilby the following key threats have been identified for some if not all of the state-listed priority species for which a significant residual impact is considered likely:

- predation pressure by introduced cats (*Felis catus*) and foxes (*Vulpes vulpes*)
- habitat loss and degradation through unplanned and unmanaged disturbance and introduction and spread of exotic plant species, particularly buffel grass (*Cenchrus ciliaris*), which outcompetes native habitat structure and food resources and increases fire fuel loads
- prevalence of introduced hard-hooved herbivores, particularly (*Camelus dromedarius*) and cattle (*Bos taurus*) that:
 - trample and forage on native vegetation and habitats
 - outcompete native herbivores
 - destroy burrows and modify sandy substrates suitable for many small and secretive ground-dwelling animals
- proliferation of rabbits (*Oryctolagus cuniculus*) which also outcompete with native mammals and support introduced predator populations; and
- an altered and unsustainable fire regime with increased frequency and area of hot unmanaged fires across large areas of native habitats.

A profile for each of these state-listed priority species, their presence within the DE and likely threats to each is provided in Table 5 below.

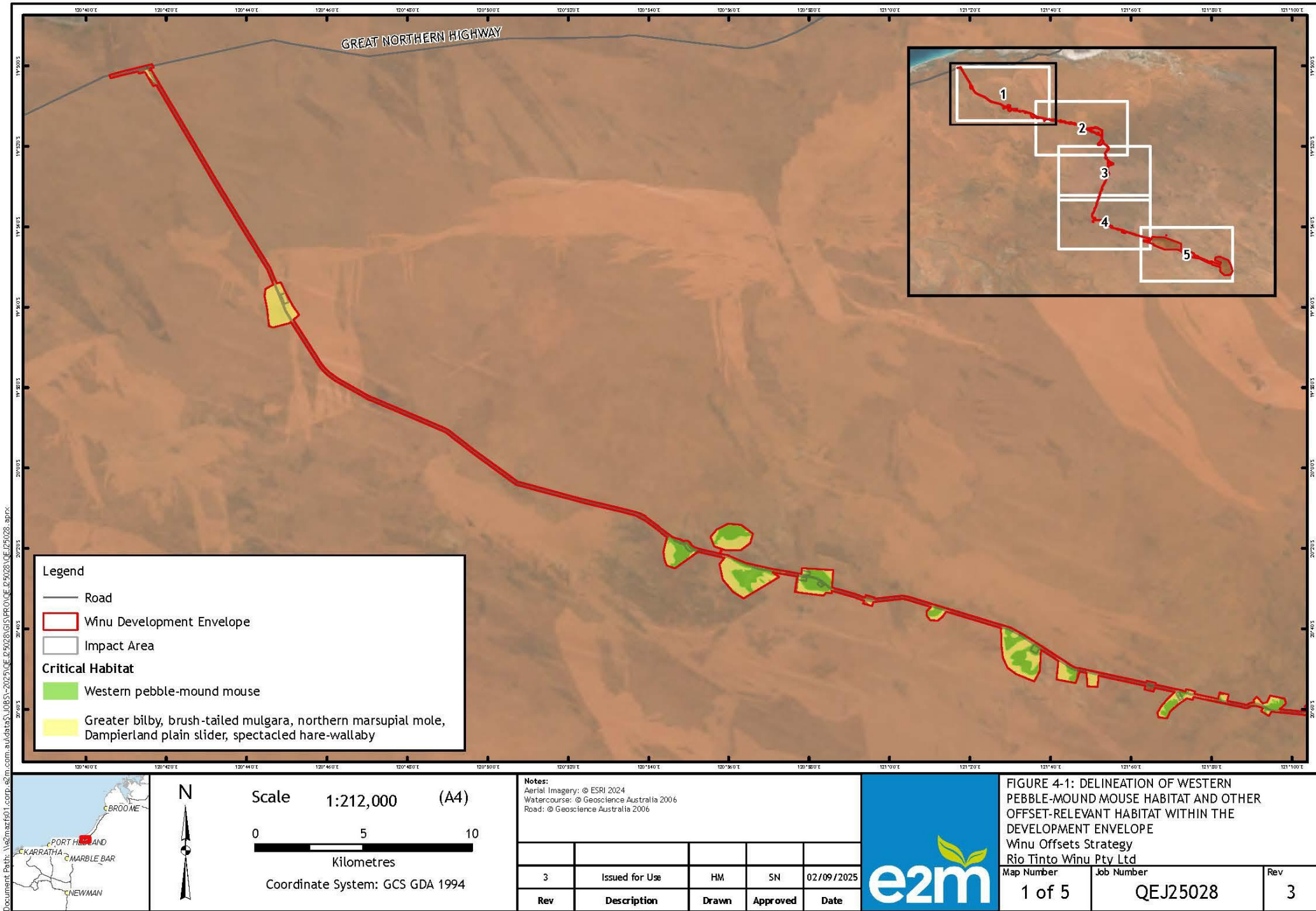
Table 5: Summary of WA priority-listed species' presence and threats within the Development Envelope and broader landscape

Species	Distribution and habitat	Presence within the Development Envelope and broader landscape	Potential threats and key management requirements
Brush-tailed mulgara	The brush-tailed mulgara has a patchy distribution and generally low population density, with population size varying with environmental conditions (Körtner et al., 2007). The species is found in the north-western deserts (Threatened Species Recovery Hub, 2021a). from south-western Queensland across the Simpson, Tanami and Great Sandy Deserts of southern and central Northern Territory and central Western Australia (Biota Environmental Sciences, 2025b). The species is generally found on gently sloping to flat topography in area with mature hummock (spinifex) grasslands, on sand plains and swales, between low dunes and gibber plains. It also uses other vegetation types adjacent to hummock grasslands, paleo-drainage systems, and drainage lines in sandplain or sand dune habitats (Biota Environmental Sciences, 2025b; Threatened Species Recovery Hub, 2021a). Key potential habitat variables for the species include <i>Liopholis kintorei</i> burrows, termite populations and shrub/leaf litter cover (Molyneux et al., 2018). The species is nocturnal and rests in burrows at the base of grass clumps or bushes during the day (Threatened Species Recovery Hub, 2021a). They have a relatively large home range, and utilise a number of burrows, and often favour one or two burrows for prolonged periods at a time (Körtner et al., 2007; Molyneux et al., 2018). The brush-tailed Mulgara is a generalist predator, preying on skinks, termites, and a variety of other vertebrate species (Molyneux et al., 2018). The species utilises microhabitats	Recorded: Secondary evidence (tracks and diggings) was recorded from within the MIA within the Shrub and spinifex on sandplain habitat type. It has also been recorded in the locality surrounding the DE through secondary evidence (Biota Environmental Sciences, 2025b). Several additional records are present within the surrounding landscape between 0.5 and 11 km south of the Nyangumatra Warren IPA and in the vicinity of the Martu IPA (Atlas of Living Australia (ALA), 2026) .	Threats: Potential threats include, predation by cats and foxes, habitat change through overgrazing and feral herbivores, unsuitable fire regimes and climate change (Bush Heritage Australia, n.d.). The brush-tailed mulgara is negatively affected by large, high severity fires that remove spinifex cover and increase exposure to predators (Körtner et al., 2007). Management and recovery objectives: Retain mature and mid-aged spinifex, avoid extensive landscape-scale fire, and maintain burrowable sandy soils. Land management strategies should aim to support and promote key habitat characteristics (i.e., <i>Liopholis kintorei</i> burrows, termite populations and shrub/leaf litter cover) to ensure populations of the species are maintained in the future (Molyneux et al., 2018).

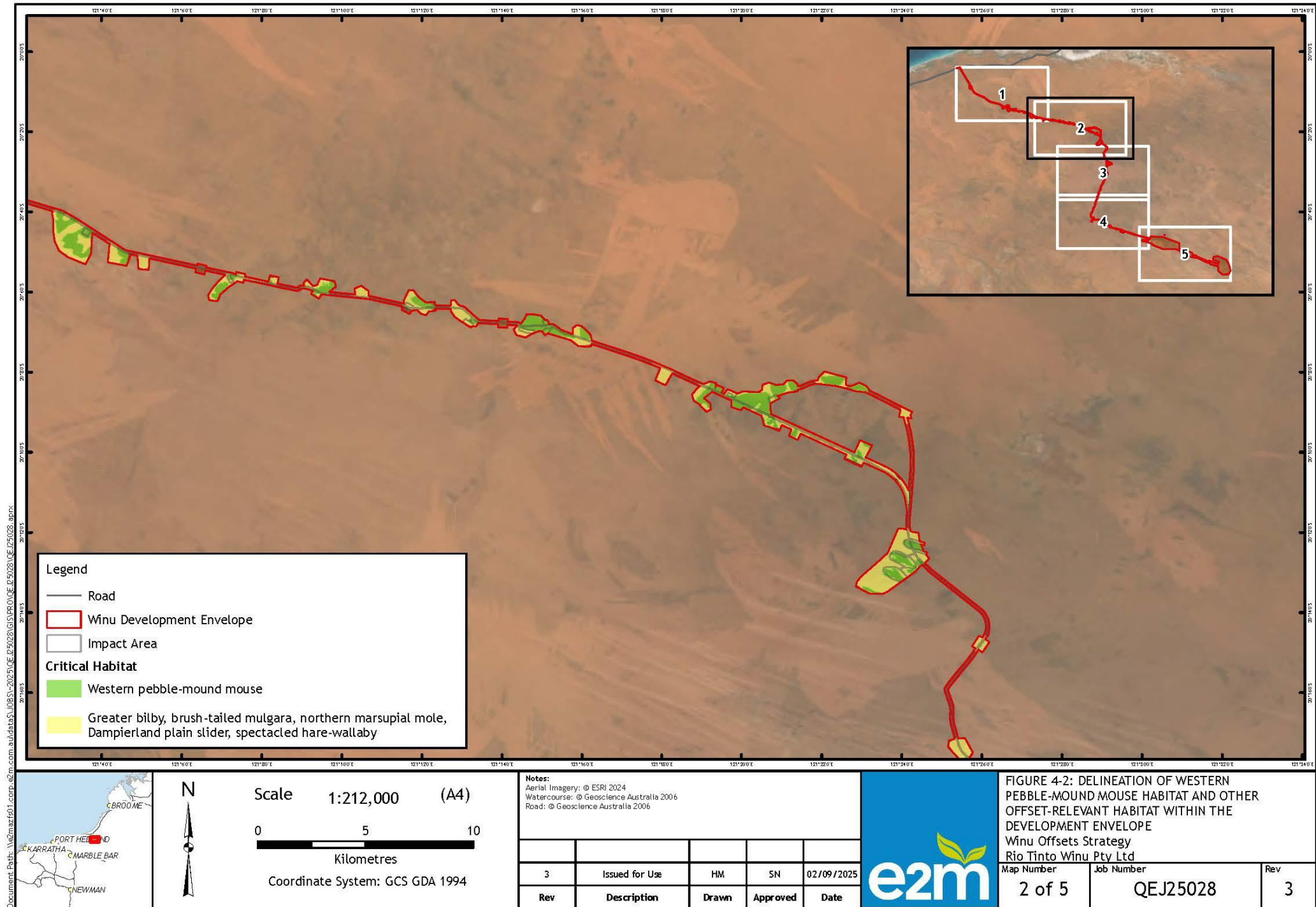
Species	Distribution and habitat	Presence within the Development Envelope and broader landscape	Potential threats and key management requirements
	including open spaces between vegetation that promotes access to important prey species (Molyneux et al., 2018).		
Northern marsupial mole	The northern marsupial mole is found in north-central Western Australia and in and around the Great Sandy, Little Sandy, Gibson, and Great Victoria deserts (Wasleske, 2012). Records of the species tend to occur within the distribution of aeolian dunes, or within 10 km of dunes (Benshemesh, J., 2004). Connectivity of dunes appears to be an important factor in determining the species distribution, with mole signs less frequently observed in areas of low dune connectivity (Threatened Species Scientific Committee (TSSC), 2015). The northern marsupial mole habituates sand dunes and adjacent swales and in sandy soils along river flats, requiring deep loose sand to move through (Threatened Species Recovery Hub, 2021b). Preferred habitat is sometimes associated with <i>Triodia basedowii</i> (spinifex) with a preference toward areas of continuous habitat (Wasleske, 2012). The northern marsupial mole is fossorial and primarily consumes invertebrates found underground, specifically beetles, beetle larvae and pupae, ant eggs, and centipedes, as well as small salamanders, lizards, eggs, and some seeds and vegetable matter (Wasleske, 2012).	Recorded: Northern marsupial mole tunnels were recorded from both inside and outside the DE near the MIA in the Inland sand dune habitat, although it is likely to occur in other areas of suitable habitat within the DE (Biota Environmental Sciences, 2025b). Several additional records are present within the surrounding landscape (Atlas of Living Australia (ALA), 2026).	Threats: Threatening processes are largely unknown however, foxes, cats, dingos and native birds are known to predate marsupial moles. Altered fire regimes, trampling of habitat by cattle and camels, infrastructure development and climate change have the potential to threaten marsupial moles at the landscape scale by modifying the vegetation and availability of invertebrate prey (Benshemesh, J., 2004). Management and recovery objectives: The management of fire, and feral predator baiting throughout the sandy deserts may have benefits for the conservation of marsupial moles (Benshemesh, J., 2004).
Dampierland plain slider	Although originally thought to only occur on the Dampier Peninsula, it has more recently been recorded on Warrawagine Station to the west of the DE and in part of the DE (Biota Environmental Sciences, 2025b). This cryptic species is found in areas of the south-west Kimberley coast, between Kimbolton and Nita Downs (Steve Wilson & Gerry Swan, 2020).	Recorded: This species was recorded within the RAC and MIA in the DE within Shrub and spinifex on sandplain habitat, which represents a range extension for the species. It was	There may be localised threats to this species, but otherwise substantial threats are unknown (Cogger, H. & Shea, G., 2017).

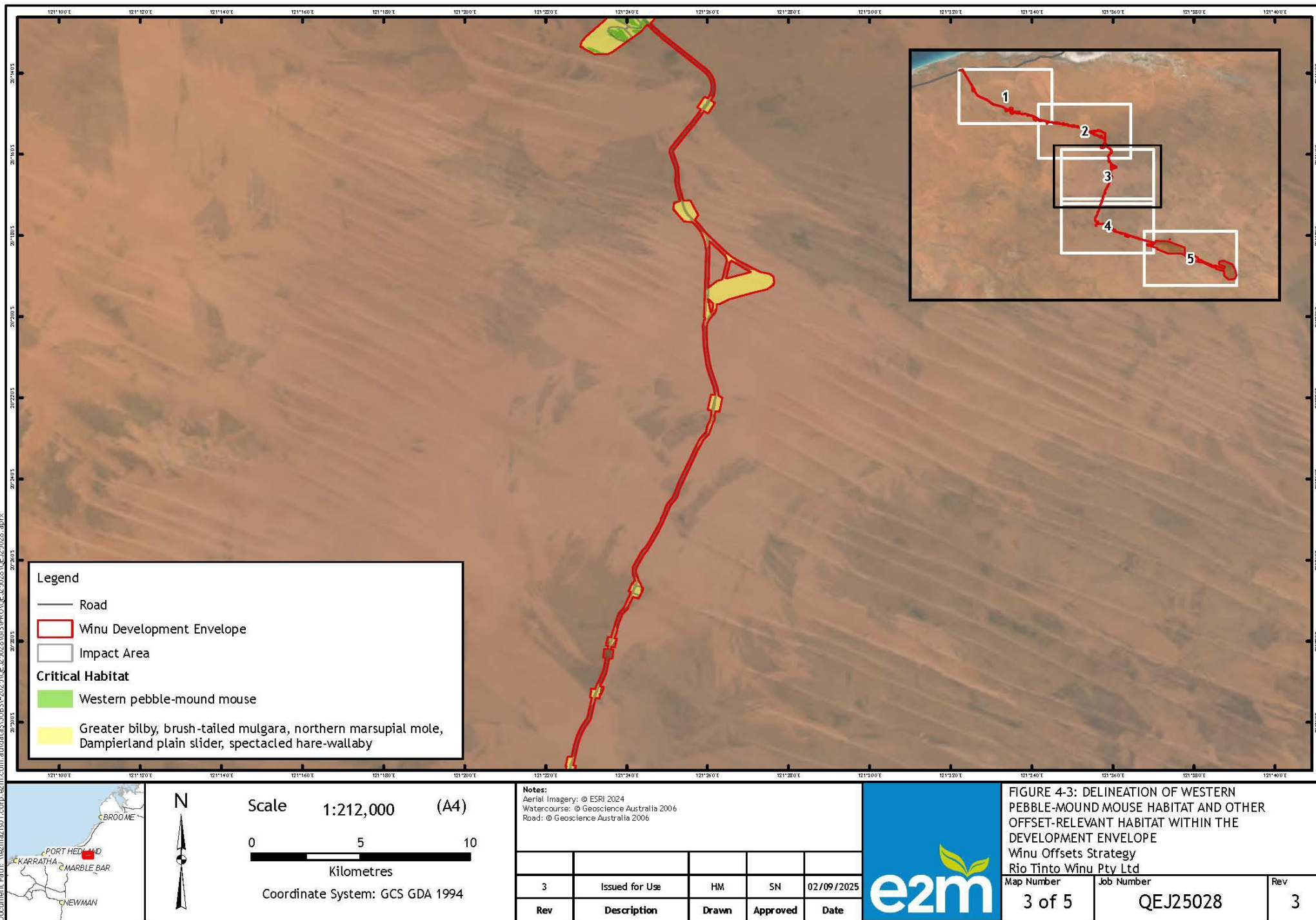
Species	Distribution and habitat	Presence within the Development Envelope and broader landscape	Potential threats and key management requirements
	The Dampierland plain slider is fossorial and has been described to occur on consolidated coastal dunes in sandy soils, inhabiting sand dunes and plains associated with spinifex hummock grasslands. <i>Lerista spp.</i> are typically found in loose soil or sand beneath stones, logs, and termite mounds (Cogger, H. & Shea, G., 2017).	also recorded in the locality outside the DE (Biota Environmental Sciences, 2025b).	
Spectacled hare-wallaby	Small isolated populations of the species occur in the Pilbara and Kimberley regions of WA, as well as on Barrow Island (Wysong et al., 2022). Occurs in daytime shelters within spinifex hummocks, particularly within long unburnt areas supporting large spinifex clumps (Biota Environmental Sciences, 2025b). The spectacled hare-wallaby habituates sandy and gravelly plains, dunes, stony rises and hills and spinifex or tussock-grass, occasionally with Mulga (Threatened Species Recovery Hub, 2021c). Preferred habitat for the species is considered to include a combination of dense grass or shrubs for daytime shelter, alongside suitable locations of colonising plants for foraging (Wysong et al., 2022). The species is nocturnal and rely on an understory of dense grass tussocks or shrubs for shelter, conserving water in extreme daily temperatures and evading predators (Wysong et al., 2022). The species are likely selective feeders, foraging on colonising soft forbs, herbs and grasses (Wysong et al., 2022).	Likely to occur: The spectacled hare-wallaby was recorded via tracks at one location approximately 640 m south of the DE. It was not recorded elsewhere despite extensive surveys undertaken for the greater bilby in spinifex habitat (Biota Environmental Sciences, 2025b).	Threats: High-intensity wildfires, predation by feral cats, and competition for foraging resource are key threats to this species form the focus of management objectives as outlined below. Management and recovery objectives: A managed fire mosaic, relying on low-intensity early dry season burns, to reduce the likelihood of high severity wildfires is likely to benefit the spectacled hare-wallaby. Cool-season and low intensity patch burning may stimulate new vegetation for foraging while preserving long unburnt habitat for shelter (Wysong et al., 2022). Localised feral cat management efforts could target recent fire scar edges where vulnerability of spectacled-hare wallaby to feral cat predation is highest (Wysong et al., 2022).

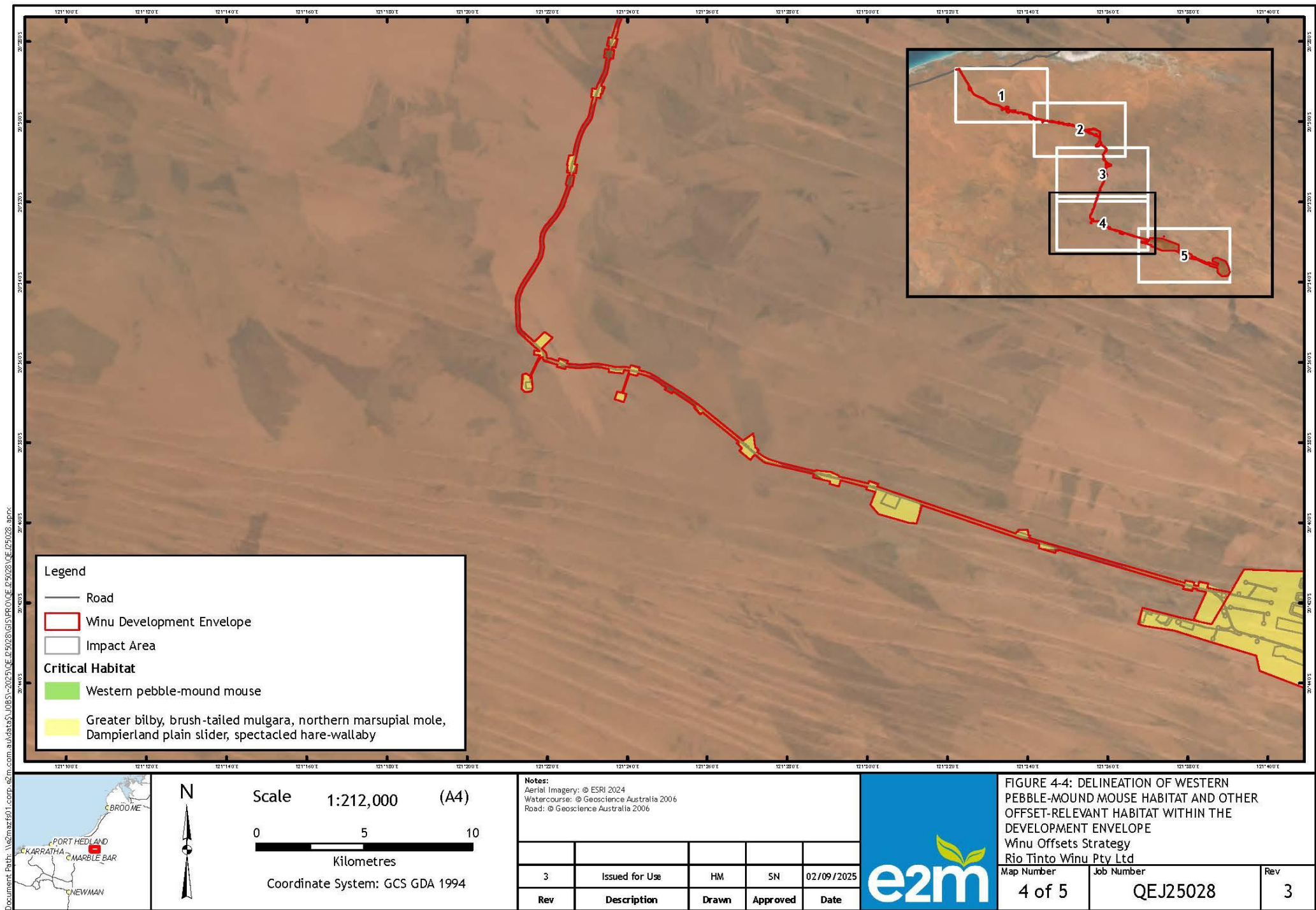
Species	Distribution and habitat	Presence within the Development Envelope and broader landscape	Potential threats and key management requirements
Western pebble-mound mouse	The species is heavily reliant on mound-burrow systems for survival, and is restricted to rocky substrates predominately within the Pilbara Bioregion of WA (Firman et al., 2025). The distribution of pebble-mound mouse populations is considered to be dependent upon the availability of rocky hills and their connectivity, as well as the extent of unsuitable habitats such as sand dunes (Ford & Johnson, 2007). This species is now known to occur widely over the entire Pilbara region and into the Gascoyne. This species is typically found on stony hillsides with hummock grasslands and is common to very common in suitable habitat within the Hamersley and Chichester subregions of the Pilbara bioregion. The western pebble-mound mouse is a burrowing rodent species, habituating complex subterranean burrow systems in rocky substrates (Firman et al., 2025). This species is recognised for nesting and sheltering within burrows situated in large pebble mound structures (Ford & Johnson, 2007). Pebble mounds are typically found on gentle colluvial slopes, located between steep-sided ridges, atop hills, and along the sides of steep hills (Firman et al., 2025).	Recorded: This species was recorded within the western portion of the DE within the RAC from Gravelly lateritic rises habitat, as well as outside the DE to the immediate south-west (Biota Environmental Sciences, 2025b).	Cattle management interventions, including exclusion fencing, could benefit populations of spectacled-hair wallaby by reducing competition for foraging resources (Wysong et al., 2022). Threats: Habitat destruction and altered fire regimes that remove old growth habitat (Biota Environmental Sciences, 2025b). Limited information is available on significant threats to the species, however, it is likely that the species is influenced by predation from feral cats, habitat isolation/loss and mining (Burbidge et al., 2016).



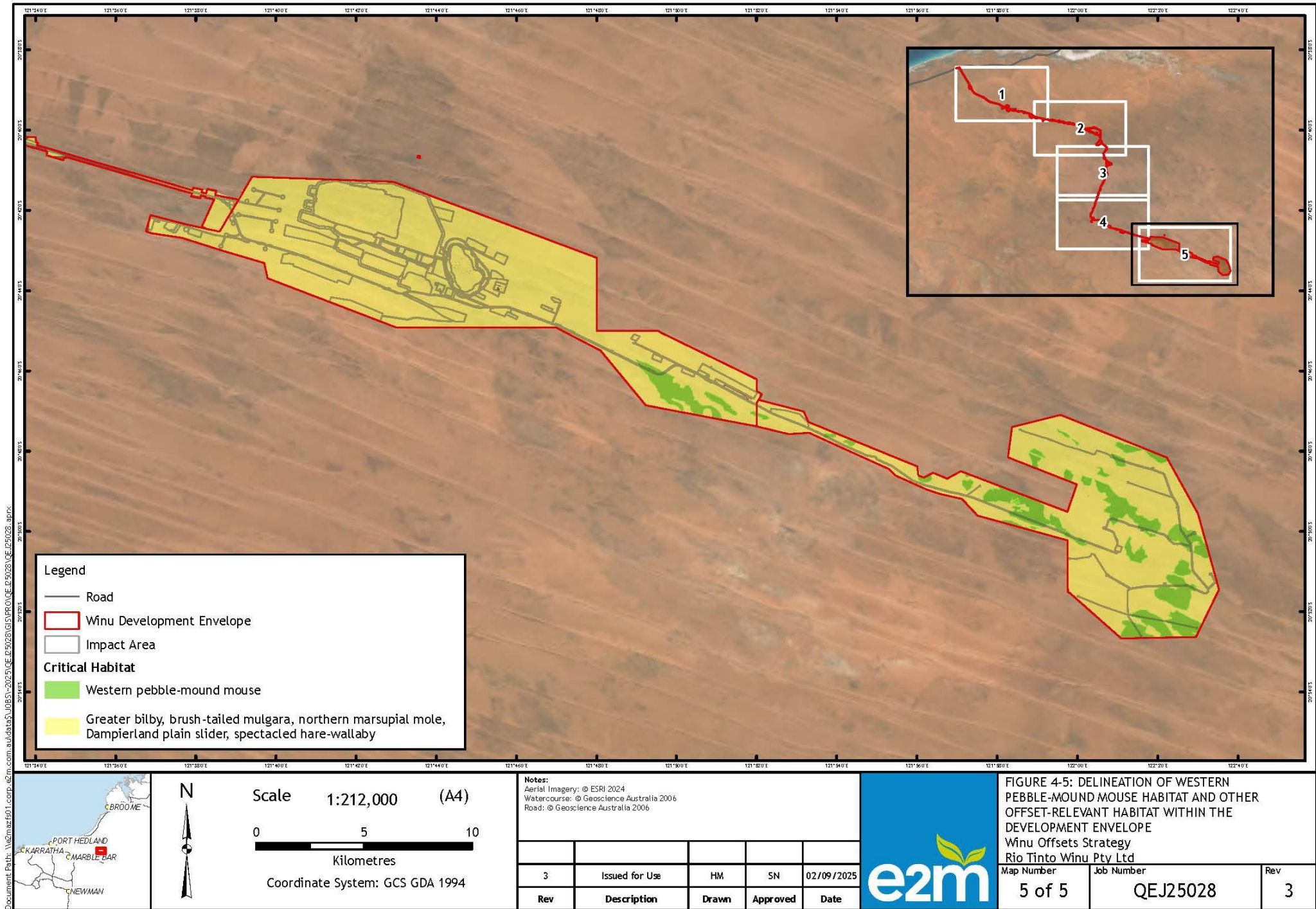
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4 Offset strategy

As outlined in Section 3, significant residual impacts are likely to greater bilby, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, spectacled hare-wallaby and western pebble-mound mouse as part of the Project. Project avoidance and mitigation has reduced the risk of direct and indirect impacts to critical habitat for all other protected species to the extent that a significant residual impact on these species is unlikely (Rio Tinto Winu Pty Ltd, 2025). To meet the offset obligations associated with the Project and related to impacts to these species, Rio Tinto will implement Offset Projects (defined below), developed in accordance with this Offset Strategy and the conditions of approval.

The offsets will compensate for impacts to a total of 4,736 ha of habitat, including 4,498 ha of habitat for the greater bilby, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider and spectacled hare-wallaby and an additional 238 ha of habitat for the western pebble-mound mouse. The offset will also provide for the mosaic of habitats for the six species proposed to be impacted, whereby the vegetation assemblages impacted will be proportionately represented in the offset area and across the offset projects as follows:

- shrub and spinifex on sandplain - 77.8%
- inland sand dunes - 17.2%; and
- gravelly lateritic rises - 5%.

4.1 Details of proposed offset

As the Project is located within WA's Extensive Land-use Zone, traditional land-based offsets are considered unsuitable given the land use tenure issues in the region. To overcome this, Rio Tinto proposes a strategic approach to offsets (aligning with Principle 6 of the WA EOP and Part 10 of the Commonwealth EPBC Act), through establishing a managed offset fund within the bioregion (managed fund model) to counterbalance the residual impacts to the greater bilby and five state-listed priority species.

A managed fund model is an effective mechanism for financing a third party to carry out agreed offset actions. The offset actions, referred to as the Offset Projects in the OMP, will be implemented as 100% direct offsets through targeted on-ground conservation management efforts, as outlined in Section 4.4.

To maximise conservation outcomes, the offset will be dedicated to on-ground land management activities focused on threat abatement. These efforts will include habitat restoration, invasive species management, fire control, and predator reduction to deliver meaningful conservation outcomes.

The Offset Projects will be collaboratively designed and implemented alongside the Traditional Owners and Ranger groups, who have expressed support for this approach. Their direct involvement in on-ground conservation management presents valuable economic and development opportunities, ensuring that restoration efforts align with cultural knowledge and environmental priorities while fostering long-term ecological stewardship. These Offset Projects will have the following benefits:

- direct engagement with indigenous groups (Nyangumarta & Martu) and advancement of values and management objectives for both IPAs
- meaningful conservation outcomes for the greater bilby, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, spectacled hare-wallaby, the western pebble-mound mouse and associated habitat; and

- other threatened fauna indirectly benefiting through the implementation of proposed Offset Projects, where management and reduction of threatening processes overlap and which are recognised as key threats for the landscape in which the Project and Offset Projects are located.

A comprehensive Winu Mine Managed Offset Fund, established by Rio Tinto, will be governed by a formal agreement developed in consultation with regulatory agencies, Indigenous Ranger groups, and key stakeholders. Oversight of the fund will be provided by a dedicated governance board to ensure transparency, accountability, and alignment with agreed objectives.

The Offset Fund will serve as the long-term financial foundation to support the implementation of conservation measures, ensuring sustained outcomes for the relevant species and associated biodiversity. The financial framework will commence with an initial annual payment to establish and activate the fund, followed by annual contributions throughout the life of the project. These payments will be adjusted annually in line with the Consumer Price Index (CPI) to maintain financial accountability, ensure regulatory compliance, and provide continued support for offset initiatives. All payments will be made within 30 business days of the release of the relevant CPI data by the Reserve Bank.

Following the approval of this offset strategy, an OMP will be developed which will articulate clear objectives, measurable targets, robust monitoring protocols, performance thresholds, and adaptive contingency measures. These components will guide effective implementation and ensure strong risk mitigation.

4.2 Offset Management Plan

The OMP will be developed following the approval of this Offset Strategy and will serve as the primary framework for the implementation, monitoring, and reporting of all Offset Projects. The OMP will be a dynamic document, reviewed and updated as required to reflect the progress of Offset Projects, changes in regulatory requirements, and stakeholder feedback.

The development of the OMP will include the following key components:

- **Integration of Approved Offset Project Proposals:** Each Offset Project Proposal, once approved, will be incorporated into the OMP. This will ensure that all project-specific objectives, implementation schedules, budgets, and monitoring frameworks are centrally managed and aligned with the overarching Offset Strategy and accounted for in the Winu Mine Managed Offset Fund.
- **Stakeholder Engagement:** The development of the OMP will be undertaken in close consultation with relevant stakeholders, including Traditional Owners, land managers, government agencies, and conservation partners. This engagement will ensure that the OMP reflects shared priorities, incorporates local knowledge, and supports long-term stewardship of the offset areas.
- **Governance and Oversight:** The OMP will define governance structures, including roles and responsibilities for Rio Tinto and its partners in the planning, implementation, and review of Offset Projects. This will include mechanisms for decision-making, risk management, fund management and adaptive management.
- **Monitoring and Evaluation Framework:** The OMP will establish a consistent framework for monitoring Offset Project performance against defined objectives, milestones, and targets. This will include methodologies for data collection, analysis, and reporting, as well as provisions for auditing and independent reviews where appropriate.
- **Reporting and Review Schedule:** The OMP will outline the schedule and format for annual reporting, as required under EPBC Act and EPA conditions. It will also include provisions for periodic review and revision of the OMP to ensure it remains current and effective.

- **Endurance and Legacy Planning:** The OMP will identify strategies to ensure the long-term sustainability of Offset Projects beyond the life of individual funding cycles. This may include the establishment of conservation agreements, capacity-building initiatives, and partnerships that support enduring outcomes for the greater bilby, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, spectacled hare-wallaby, western pebble-mound mouse and other protected species.

The OMP will be submitted to the relevant regulatory authorities for review and approval and will be made publicly available to ensure transparency and accountability in the delivery of offset commitments.

4.3 Offset project proposals

Offset project proposals will be developed following approval of this strategy and will be incorporated within the OMP, once approved. Offset project proposals will have the following characteristics:

- involve on-ground, long-term measures
- establish specific, simple and measurable performance criteria
- use regular monitoring to track progress, success and adaptive management
- comprise activities aimed at achieving the objectives of the priorities listed in Section 4.6.3; and
- incorporate traditional owner knowledge and participation.

Offset project proposals will include the following information:

- project title
- location/s of project activities (including GIS shapefiles that define the extent of land management under the Offset Project), herein referred to as the Offset Area
- specific Offset Project objectives
- offset Project context and alignment with this Offset Strategy
- offset Project description (including project site rationale where relevant)
- offset Project compliance requirements (including compliance with EPBC EOP, EPA WA EOP and, where relevant, how the Offset Project meets the criteria for other compensatory measures identified in the EPBC EOP)
- key threats to the relevant species
- stakeholders and roles
- offset monitoring program and timeframes
- offset Project implementation schedule and budget
- identification and assessment of potential risks to Offset Projects, outcomes and associated mitigation/corrective measures
- offset Project outcomes and targets; and
- offset Project review, reporting and communication.

Offset Project Proposals will include an indicative budget and implementation schedule (which may include a staged implementation approach) that aligns with the Offset Project activities to be implemented to achieve the Offset Project's objectives.

Rio Tinto will partner with stakeholders during the Offset Project's planning and design phases to develop the Offset Projects and to ensure sustained stakeholder involvement during the life of the Offset Projects. Rio Tinto will identify and seek opportunities to ensure endurance of the Offset Projects (where relevant). Commitments from the stakeholders involved in the Offset Project (i.e. community that undertake on-ground management actions on their lands) will be explored during early implementation phases of the Offset Projects, to ensure that the benefits to the relevant species are enduring beyond the Offset Project's life and funding. These commitments may be in the form of conservation agreements or similar and will be subject to the success of the early implementation of an Offset Project.

Further detail on the prioritisation and selection processes for Offset Projects can be found in Section 4.6 below.

4.4 Proposed greater offset area

The OMP will focus on implementing the Offset Projects within areas already identified as having a high conservation value in the Great Sandy Desert. Rio Tinto proposes to focus all Offset Projects on two areas; Nyangumarta Warrarn IPA and the Martu IPA (herein referred to as the Proposed Greater Offset Area), both of which are known areas of habitat for the relevant species and/or occupation by the species (DCCEEW 2023; Jamukurnu-Yapalikurnu Aboriginal Corporation (JYAC), 2022; Nyangumarta Warrarn Aboriginal Corporation and Yamatji Marlpa Aboriginal Corporation, 2022).

The Proposed Greater Offset Area, shown in Figure 13 below, was strategically identified by Rio Tinto to complement the existing conservation initiatives in the Great Sandy Desert. The approach is designed to significantly upscale conservation capability and capacity over the long term, building on established efforts while delivering enhanced, measurable outcomes and ensuring alignment with the EPBC Act and EOP and WA offset principles, particularly 3, 4, 5 and 6. By focusing on targeted, scalable actions within a defined area, the offset strategy avoids dilution of effort and maximizes the potential for enduring ecological benefits.

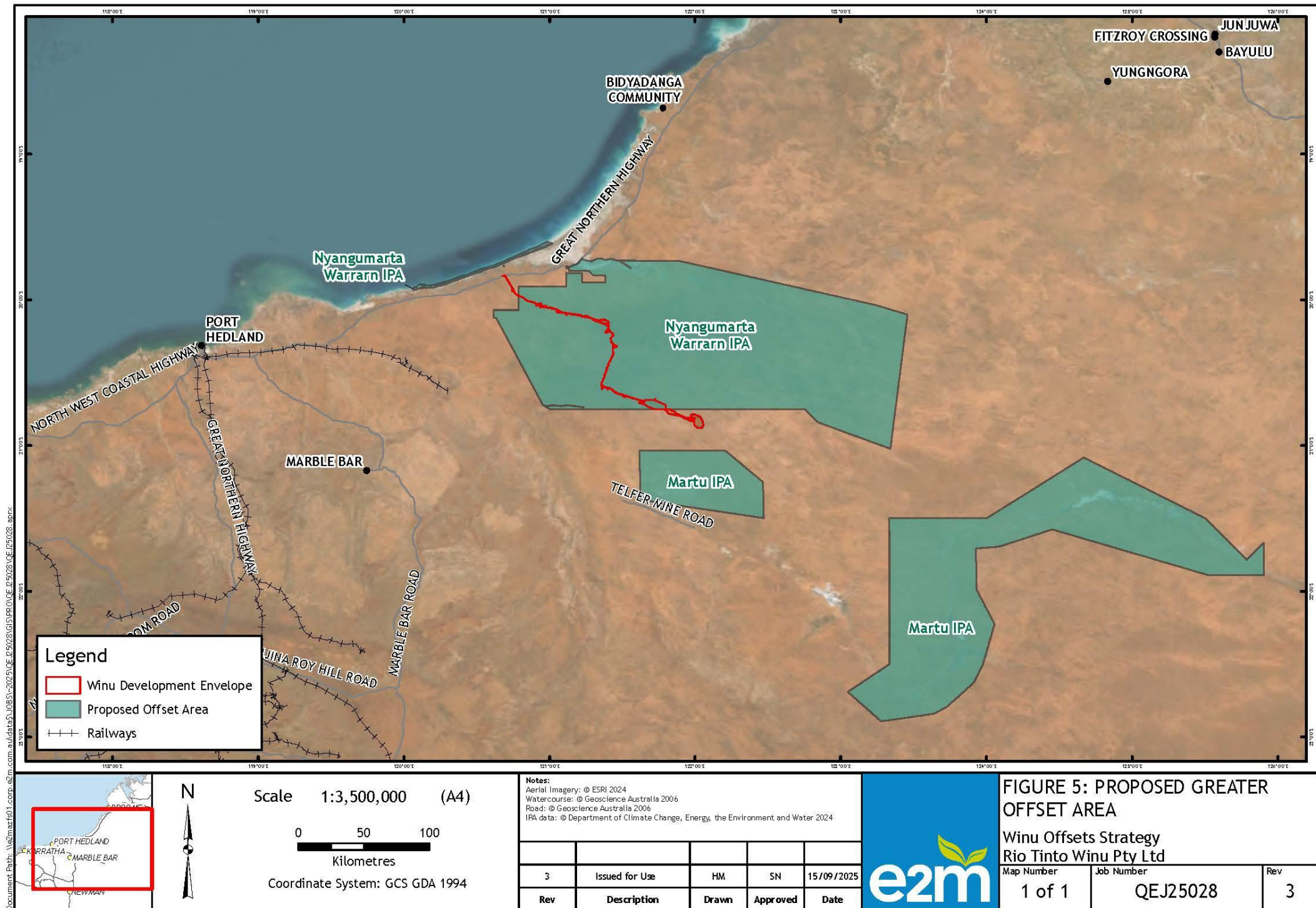
The DE directly traverses the Nyangumarta Warrarn IPA and is adjacent to the Martu IPA. IPAs are voluntarily dedicated by Indigenous groups on Indigenous owned or managed land or sea country. They are recognised by the Australian Government as an important part of the National Reserve System, protecting the nation's biodiversity for the benefit of all Australians.

IPA management plans describe how indigenous groups 'care for country' using a combination of traditional indigenous knowledge and contemporary western science. These plans are assigned an International Union for Conservation of Nature (IUCN) management category to ensure that their management is in line with international standards.

The strategic offsets proposed by this Offsets Strategy would not only directly benefit the six impacted species but will augment the values and management objectives of both the Nyangumarta and Martu IPAs. The following sections outlined these values and objectives for each IPA as defined in the management plan for each and which include for both IPAs:

- more regular access and involvement in activities on country by Nyangumarta and Martu peoples, including remote areas often difficult to access, to ensure sharing of knowledge through generations and connectedness with country
- returning to traditional burning to reduce the frequency and scale of lightning fires and promote natural and sustainable ecosystem recovery for the native plant and small animal assemblages that occupy the landscape

- monitoring and management of hard-hooved animals that degrade landscapes and habitats, including natural and cultural water resources
- management of introduced predators that put pressure on native small animal populations; and
- access and associated weed management to minimise disturbance of natural areas, vegetation assemblages and habitats (Jamukurnu-Yapalikurnu Aboriginal Corporation (JYAC), 2022; Nyangumarta Warrarn Aboriginal Corporation and Yamatji Marlpa Aboriginal Corporation, 2022).



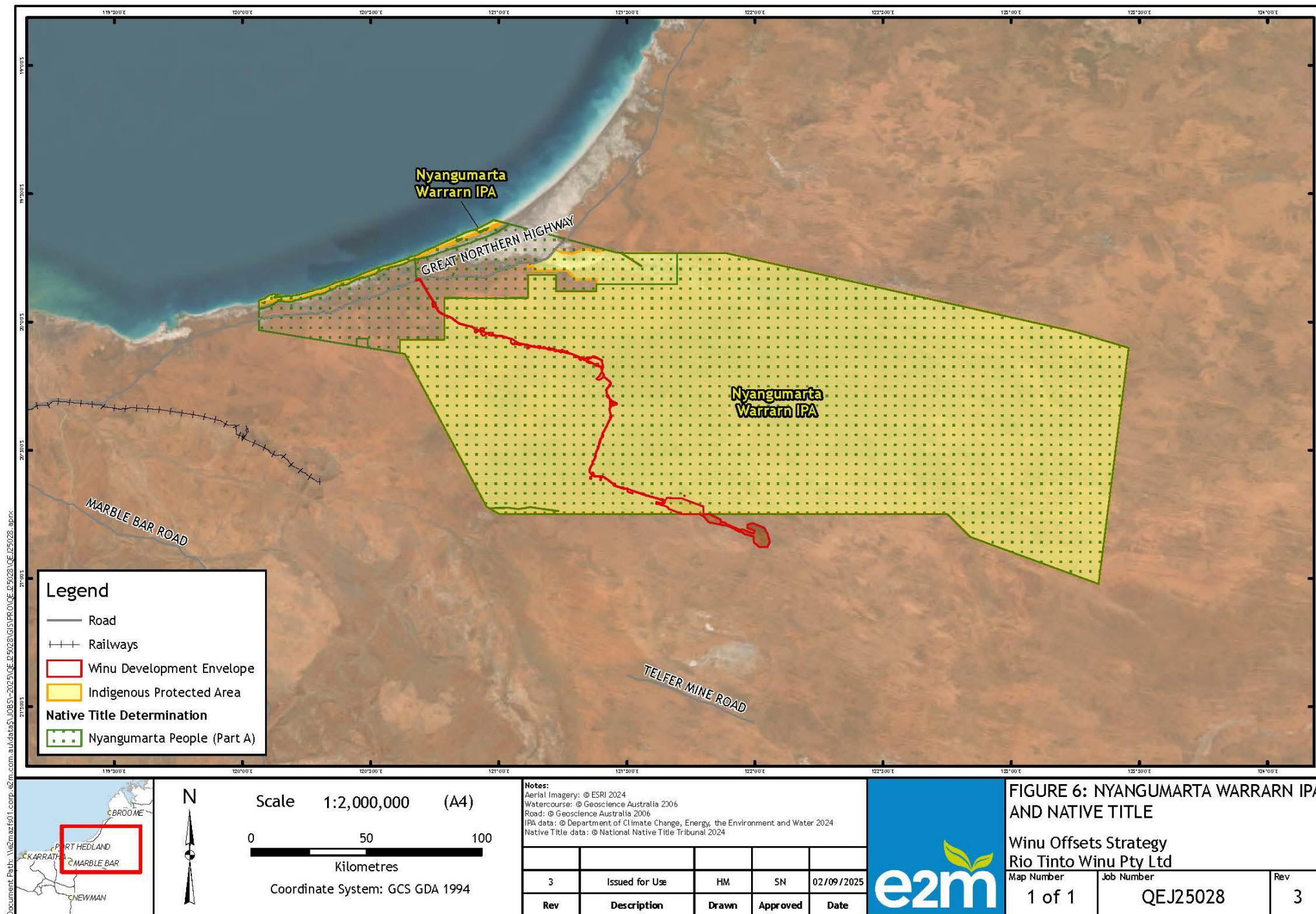
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4.4.1 Nyangumarta Warrarn IPA

Nyangumarta Warrarn Country is in Western Australia's north-west Pilbara and southwest Kimberly region. The Project directly traverses the southern portion of the IPA (Figure 14). It encompasses over 100 km of Eighty Mile Beach and runs inland into the southern portion of the Great Sandy Desert. The majority of Nyangumarta Country is located within the Great Sandy Desert and Dampierland IBRA sub regions. The Nyangumarta Warrarn IPA covers an area of approximately 2.8 million hectares.

The *Nyangumarta Warrarn IPA Management Plan 2022-2032* (Nyangumarta Warrarn Aboriginal Corporation and Yamatji Marlpa Aboriginal Corporation, 2022) sets out strategies and actions aimed at conserving the threatened species within the IPA, including the greater bilby, and other relevant conservation significant species, including ground-dwelling reptiles and mammals. These strategies include:

- continue to monitor for and develop a feral cat eradication program for Nyangumarta Warrarn Country
- continue to work with partners (e.g. Parks and Wildlife (now the WA Department of Biodiversity, Conservation and Attractions (DBCA) and the 10 Deserts Project) for the management of camels and cattle
- monitor and eradicate weeds at key locations
- develop a 5-year fire management operational plan to guide annual fire burning and to build operational capacity
- develop and implement annual fire management plans, working cooperatively with partners; and
- continue to work with partners to build knowledge of threatened species and ecological communities over time to ascertain health of Country and impact of the management regime (e.g. long-term biodiversity sites).



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4.4.2 Martu IPA

The Martu IPA is represented across three IBRA subregions; Gibson Desert, Great Sandy Desert and Little Sandy Desert and located approximately 14 km from the Project (Figure 15). The total area of the Martu IPA is approximately 2.2 million hectares.

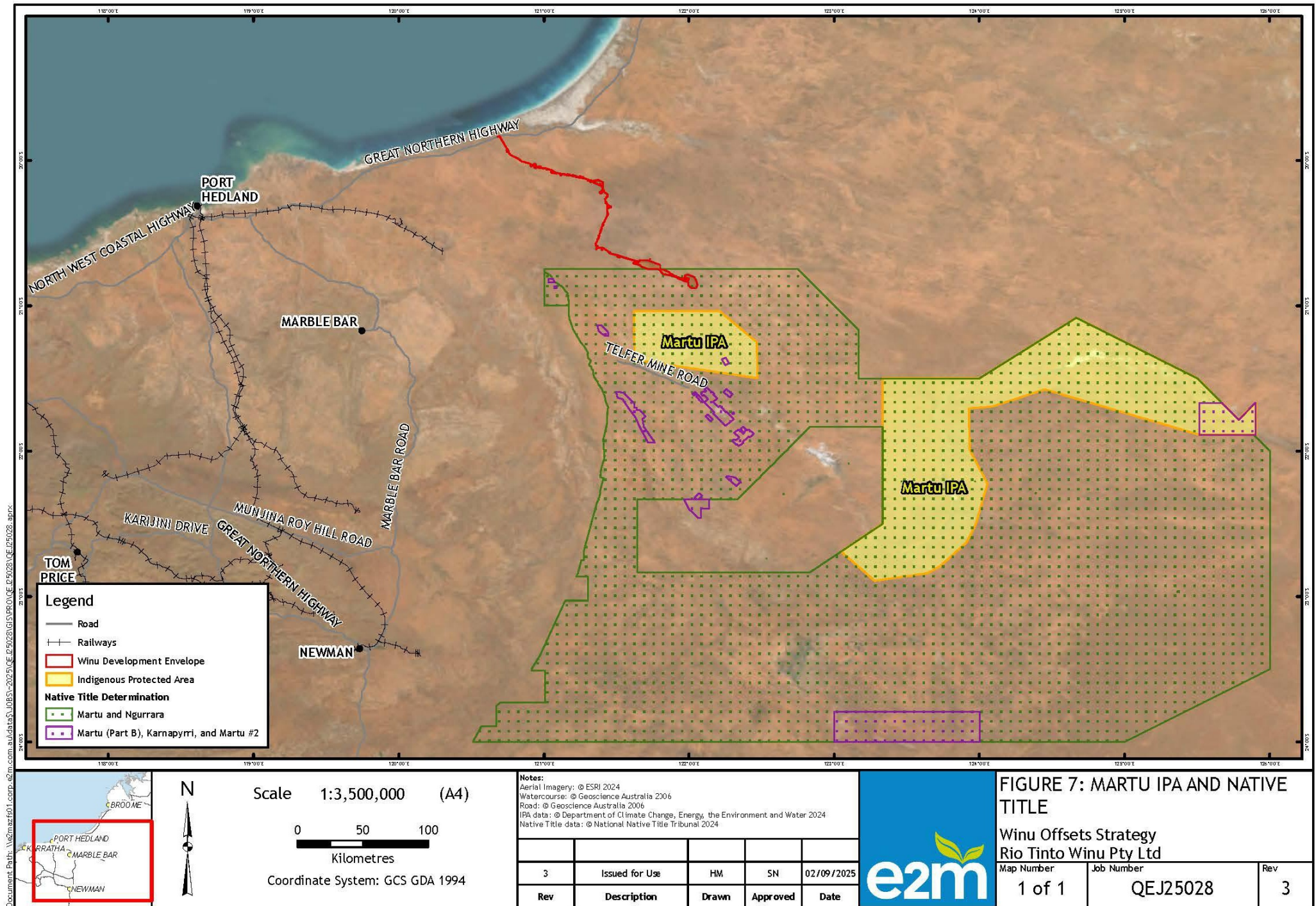
The *Martu IPA Plan of Management 2022-2027* (JYAC, 2022) has identified eight key targets that are needed to be ‘healthy’ in order for the Martu IPA to be ‘healthy’, including:

- Ngurraku ninti (knowledge of ngurra)
- Kalyu (permanent waterholes, springs and soaks)
- Mirrka (plants for food and medicine)
- Martu livelihood
- Warla (lakes)
- small animals (including greater bilby)
- important Martu places; and
- Kuwiyi (bush meat)

The management objectives identified within the plan to address the above targets include:

- feral herbivore management, including camels, cattle, donkeys (*Equus asinus*) and rabbits
- tourist visitation
- weed management particularly buffel grass
- unplanned development, including unmanaged roads and tracks
- climate change
- feral predator management, including cats and foxes
- risk of knowledge not being passed from older to younger generations; and
- appropriate fire regimes.

The IPA management plan specifically notes the role stakeholders, including mining companies can play in support of the IPA ranger groups and their objectives (Jamukurnu-Yapalikurnu Aboriginal Corporation (JYAC), 2022).



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4.5 Offset quantum

The proposed offset is considered suitable to compensate for impacts to all six offset species because they occur within the same landscape and utilise, to varying extents, the same or closely associated habitats and micro-habitat features within and around the Development Envelope. These species occupy similar spatial extents, are subject to broadly comparable threats, and those threats have been identified as landscape-wide pressures in the area in which the offset is proposed.

Furthermore, the management strategies and species and habitat improvements proposed in Section 0, including fire management and introduced predator and herbivore control, are supported in the literature to be linked to positive biodiversity outcomes. In particular, re-establishing Indigenous traditional mosaic fire regime in spinifex deserts has been shown to deliver biodiversity outcomes alongside social and cultural benefits (Ruscalleda-Alvarez, J. et al., 2023). These benefits are anticipated to extend to all biodiversity values occupying these ecosystems.

No additional threats have been identified for the five other priority-listed species beyond those addressed through greater bilby management, and all actions proposed in Section 0 are expected to confer benefits to each of the six offset species when implemented in a considered manner and informed by baseline conditions.

Given this approach, and the higher threatened status of the greater bilby relative to the other species at this time, demonstrated improvements in habitat condition and reductions in key threats for the greater bilby will also benefit the remaining priority-listed species. Notwithstanding this, monitoring of all management actions against defined key performance criteria will form a core component of the Offset Management Plan and associated project-specific plans.

4.5.1 Offset funding amount

In the absence of an established offset fund within the Great Sandy Desert to serve as a financial benchmark, the proposed funding allocation for the Winu Offset Projects has been based on Consumer Price Index (CPI)-adjusted rates referenced in the approval documentation for the Thunderbird Mineral Sands Project, WA (EPBC 2016/7648) (Department of the Environment and Energy, 2018). This project was selected as a financial proxy given its geographic and ecological similarities to the Winu Project, particularly regarding habitat relevant to the greater bilby.

Although the Winu Project affects multiple listed species, most, i.e. brush-tailed mulgara, northern marsupial mole, Dampierland plain slider and spectacled hare-wallaby, share habitat characteristics with the greater bilby, except for the western pebble-mound mouse. Consequently, offsetting for greater bilby habitat is considered to adequately address the conservation needs of these co-occurring species, making greater bilby-focused offset rates a reasonable and defensible basis for estimating costs.

In the absence of species-specific offset benchmarks for the western pebble-mound mouse, greater bilby-based offset rates have been applied to this species. The use of greater bilby population and habitat improvement benchmarks as the basis for the proposed offset is considered a conservative and appropriate approach for the western pebble-mound mouse and the remaining four WA priority-listed species.

The total offset cost has been proportionally allocated between the relevant species, based on the extent of habitat impact for each species. This approach ensures consistency and defensibility in the financial valuation. Table 6 below, presents the CPI-adjusted offset rates derived from the Thunderbird Mineral Sands Project approval, which have been adopted as a financial benchmark for the Winu Offset Projects.

Table 6: Adjusted Rates utilised for the Winu Mine Offset Strategy

Approved Thunderbird Rate (2018)	2018 September CPI Index	2025 March CPI Index	% Increase	Rate utilised for the Winu Mine Strategy
\$2,500	110.8	138.6	25	\$3,127

A summary of the proposed offset funding total for the Winu Project is shown in Table 7.

Table 7: Proposed Total Offset Funding summary

Species	Impact area (ha)	Offset rate per hectare	Offset funding total
Greater bilby, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider and spectacled hare-wallaby	4,498	\$3,127	\$14,065,246
Western pebble-mound mouse	238	\$3,127	\$744,226
		TOTAL	\$14,809,472

Further to this, Table 8 below outlines the proposed offset funding allocations over the 20-year period of the offset. As shown in the table, the initial two years of funding are set at a higher rate to accommodate upfront establishment costs of the offset. From Year 3 onward, contributions have been rationalised to reflect ongoing implementation expenses, ensuring sustainable long-term support for offset initiatives. Consistent annual payments with CPI applied will ensure the offset fund will be able to accurately forecast and achieve sustainable outcomes by maintaining the time-value of contributions.

Table 8: Annual Contribution to the Winu Mine Managed Offset Fund by Rio Tinto

Species	Year 1	Year 2	Years 3 - 20	TOTAL
Greater bilby, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, spectacled hare-wallaby and western pebble-mound mouse	\$1,110,710	\$1,110,710	\$699,336	\$14,809,472

As outlined in Section 4.1, annual instalments will be provided, with all offset funding outlined in Table 8 subject to annual Consumer Price Index (CPI) adjustments to ensure financial accuracy and alignment with inflation trends. These adjustments will maintain the value of offset contributions over time and support the ongoing implementation of conservation initiatives.

The Offset Fund will be established 60 days prior to the commencement of clearing, including the deposit of the first annual instalment. All annual payments will be adjusted in accordance with the Perth Consumer Price Index (CPI) for Western Australia, with adjustments calculated from the date of approval and applied at the time of each annual instalment. Each annual contribution will be deposited into the fund within 30 business days of the release of the relevant CPI, ensuring adjustments are applied prior to payment. A 10-yearly review of the Offset Fund will be conducted to assess whether the disturbance profile remains within a reasonable range of alignment with the annual payments.

Table 9 below presents the spatial distribution of offset project components across the Nyangumarta and Martu Indigenous Protected Areas (IPAs), reflecting the extent of impact on key threatened species, including the greater bilby, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, spectacled hare-wallaby, and western pebble-mound mouse. Based on this spatial allocation, the table

also outlines the corresponding distribution of offset funding for the Winu Mine Offset Project across the two IPAs.

Table 9: Delineation of impacted area and funding split between Nyangumarta IPA and Martu IPA

Offset Project Components	Nyangumarta IPA	Martu IPA	TOTAL
Greater bilby, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, spectacled hare-wallaby, and western pebble-mound mouse	4,422 ha	314 ha	4,736 ha
	\$13,827,594	\$981,878	\$14,809,472

4.5.2 Proposed Offset Area quantum

In developing this Offset Strategy, Rio Tinto have aligned, where appropriate, with the Offset Assessment Guide (OAG) calculator as well as the DWER environmental offsets calculator (EOC). These guides provide an appropriate basis for calculating the offset quantum for the final OMP (considering Principle 3 and Principle 4 of the EPBC Act EOP and Principle 3 of the WA EOP).

For the purposes of offset quantum calculation, two distinct habitat loss figures have been applied in alignment with the respective offset calculators: 4,736 ha for the DWER Environmental Offsets Calculator (EOC) as per the requirement to offset the WA priority-listed species, and 4,498 ha for the Offset Assessment Guide (OAG) calculator for the greater bilby habitat. These figures form the basis for determining the Offset Area required under each framework.

Given the absence of current or species-specific recovery plans for five of these species, and the ecological co-location of most with the greater bilby, the *Recovery Plan for the Greater Bilby* (DCCEEW, 2023) has been adopted as a guiding framework for offset design. This approach ensures consistency in applying habitat quality metrics and conservation objectives across all species.

The offset quantum has been calculated using the greater bilby, due to its broad habitat range, higher conservation profile and its role as an umbrella species for the co-located fauna, namely the brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, and spectacled hare-wallaby. This approach provides a scientifically robust and streamlined offset calculation.

Habitat condition within both the Impact Area and the Proposed Greater Offset Area has been assessed using the metrics outlined in Table 1 of the *Draft Procedure for environmental offsets metric inputs* (Department of Water and Environmental Regulation Western Australia (DWER), 2022). This metric scale for calculating habitat quality is made up of three components for threatened species:

- site condition: using the Trudgen vegetation condition scale (used for the extensive land-use zone)
- site context; and
- habitat attributes.

Using the OAG, it is estimated that the area in which the Offset Projects will be carried out (i.e. the Offset Area) would be approximately 25,970 ha. The OAG calculations and justification for each of the scores is presented in Appendix A.

Using the DWER EOC, it is estimated that the area in which the Offset Projects would be carried out would be approximately 23,900 ha. The DWER EOC calculations and justification for each of these scores is presented in Appendix B.

Due to the significance of the habitat, the larger Offset Area (i.e. 25,970 ha) determined through the OAG calculations will be utilised for this Offset strategy.

The total area of both IPAs depicted in Figure 7 (which are the focus of this Offset Strategy) is 3,180,788 ha, comprising:

- 2,822,659 ha within the Nyangumarta Warrarn IPA; and
- 358,129 ha within the Martu IPA.

Given the size of each Indigenous Protected Area (IPA) and the extent of known and potential habitat for the relevant species within the broader region, as identified through studies undertaken for this Project, it is reasonable to conclude that these combined areas are sufficient to accommodate an Offset Area of up to 25,970 ha, as calculated using the OAG.

On-ground management actions for the relevant species will be guided by the nature, condition, and spatial extent of suitable habitat within these areas, informed by baseline information. Given the scale of each IPA, it is also reasonable to propose that the Offset Area for this Project can be located to avoid overlap with existing offset areas, thereby avoiding duplication of net gains.

In consideration of other offsets that may be relevant to the Nyangumarta Warrarn and Martu IPAs, the Telfer-Havieron Project offset strategy proposes to offset 630ha of fauna habitat for significant residual impacts to the night parrot entirely within the Martu IPA. This offset is proposed to comprise management activities aimed at improving and maintaining primary habitat for the night parrot, while also providing additional benefits to the greater bilby. It is to be located within the Lake Waukarlycarly portion of the Martu IPA.

The Lake Waukarlycarly IPA is approximately 358, 000 ha in size. The Telfer-Havieron Project offset strategy describes at least 23,500ha of spinifex hummocks within this portion of the Martu IPA, in addition to the 630ha proposed to be used for the Telfer-Havieron Project offset. A substantially smaller portion of the Winu Project offset (i.e. approximately 6.6 % of the offset equating to less than 1,800 ha) will be located within the Martu IPA, as outlined in Section 4.5.1 and therefore it is reasonable to propose that the relevant proportion of the Winu Project offset can also be located within the Lake Waukarlycarly IPA without overlap of the two offset areas. The two offset areas within the Martu IPA will expand and consolidate the habitat improvement and conservation efforts for the greater bilby in the IPA and four other priority listed species that utilise spinifex sand planes and dune that occur within the Lake Waukarlycarly IPA (Newcrest Mining Limited, 2024).

4.6 Offset projects

Due to the absence of current or species-specific recovery plans for the brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, spectacled hare-wallaby, and western pebble-mound mouse, *The Recovery Plan for the Greater Bilby (Macrotis lagotis)* (herein referred to as the Recovery Plan) (DCCEEW, 2023) has been adopted as a guiding framework for conservation actions across all target species within the Offset Area. This approach is supported by the ecological co-location of most of these species with the greater bilby habitat, and threats shared by each of these species and within the landscape in which the Project and Offset Area is proposed. In this way offset projects will enable integrated land management strategies that address shared threats and habitat requirements. While the western pebble-mound mouse does not co-occur with the greater bilby in the same habitat types, threats to both species in this region are the same and therefore, the Recovery Plan's objectives are applicable to the western pebble-mound mouse. Overall, the Recovery Plan provides a consistent foundation for conservation planning across all six species as achieving its objectives for the greater bilby will benefit all species.

The key objectives of the Recovery Plan are:

- Objective 1: The size of the population has grown
- Objective 2: The extent of occurrence and area of occupancy has been maintained or increased; and
- Objective 4: Indigenous organisations, communities, and individuals have a greater role in conservation.

These objectives will be applied consistently across all target species, including those without current or species-specific recovery plans. Over time, it is expected that the outcomes of the Offset Projects will also contribute to Objective 3: Maintaining the genetic diversity of the population, preserving its capacity for evolutionary adaptation and resilience.

The OMP will be executed through a series of prioritised land management activities that address the species' threats and support recovery, in line with the Recovery Plan objectives above. These activities will be selected through a competitive offset project proposal process and will be designed to deliver measurable conservation benefits for the greater bilby and five state-listed priority species. The following on-ground management priorities provide the framework for identifying and implementing future Offset Projects that will contribute to conservation of the greater bilby, brush-tailed mulgara, northern marsupial mole, Dampierland plain slider, spectacled hare-wallaby and western pebble-mound mouse within the Offset Area.

4.6.1 Guiding Principles

The land management activities supported by this strategy will adhere to the following principles:

- enhance long-term survival and habitat of the greater bilby, focusing on the threats identified in the *National Recovery Plan* and *DAWE Conservation Advice*
- enhance long-term survival and habitat of the brush-tailed mulgara, northern marsupial mole, Dampierland plains slider, spectacled hare-wallaby and western pebble-mound mouse and focussing on recognised threats for each species and which are relevant to the IPAs; and
- implement actions transparently, scientifically, and promptly, ensuring timely and effective delivery of conservation outcomes.

4.6.2 Funding criteria for offset project proposals

Offset Projects funded under the OMP must demonstrate:

- a measurable conservation benefit for the relevant state and Commonwealth listed species
- the capability of the applicant to execute the Offset Project successfully, including proposed budget, use of local resources, and compliance with relevant research, regulatory, or other standards including the relevant IPA management plans; and
- a suitable project timeline, including clearly defined milestones and deliverables.

Priority will be given to Offset Projects that address threats at a landscape scale rather than focusing on small, localised initiatives. The Nyangumarta and Martu peoples will be actively engaged to undertake prescribed land management activities as an integral part of the offset implementation.

4.6.3 Priorities for on-ground management actions

The following priority management actions, have been identified in the supporting strategies in the *National Recovery Plan for the Greater Bilby* (DCCEE 2023) and IPA management plans, as being most relevant to not only the greater bilby but also the five priority-listed fauna and therefore will be the focus of Offset Projects:

- Priority 1: Baseline surveys
- Priority 2: Manage and monitor predators
- Priority 3: Fire management and prevention
- Priority 4: Manage and monitor habitat degradation; and
- Priority 5: Community and indigenous engagement.

Accordingly, this strategy will focus on delivering measurable outcomes aligned with the five priorities above, with specific actions and performance criteria outlined below to ensure effective support for the greater bilby's recovery and threat abatement and habitat protection of the five state-listed priority species.

The timeframes outlined below will be refined through development of the Offset Management Plan (OMP) and individual offset projects and management actions. These timeframes will be informed by baseline survey data and refined iteratively based on monitoring outcomes.

For the purpose of setting indicative temporal expectations for each priority offset project at this early stage of offset planning, the following timeframes are applied:

- short term = 1 to 5 years
- medium term = 6 to 15 years; and
- long-term = >15 years.

Priority 1: Baseline survey

- Objective: Undertake surveys for each of the threatened offset species within the offset area to establish a baseline for population/s size, distribution, habitat characteristics and preferences, recruitment and threats.
- Focus:
 - establish baseline information about presence, distribution, population and habitats for each of the six threatened species which are being offset
 - collect meaningful seasonal baseline information to inform the priority Offset management actions, including through tracking and tag and release programs
 - survey methods are useful and repeatable as part of essential monitoring activities for priority Offset management actions 2, 3 and 4; and
 - data capture provides detailed threat information, including nature and extent of disturbance, presence and abundance of predators, impacts of disturbance and introduced species on vegetation and habitats.
- Performance Criteria:
 - baseline data is collected biannually (seasonally) each year for at least the first two years of establishment of the Offset and including a greater bilby tracking program; and
 - baseline mapping is to be completed within three years of establishment of the offset, for vegetation assemblages, habitat (micro-habitat features, e.g. burrows) and population distribution, categorisation and distribution of threats and target areas for development of priority management actions.

Priority 2: Manage and monitor predators

- Objective: Reduce predation pressure from feral species, particularly foxes and feral cats, which significantly impact ground-dwelling mammal and reptile populations.
- Focus:
 - establish target areas or control events through initial baseline surveys and consultation with relevant stakeholders and specialists
 - control and monitoring of predator populations through baiting, trapping, and shooting programs over extended periods, i.e. >2 years for any given control and monitoring event, and in consideration of seasonal and baseline data and breeding cycles
 - use of non-toxic techniques and best practices to minimise impact on non-target species, and
 - monitor predator activity via camera traps and track surveys to assess success.
- Performance Criteria:
 - a demonstrable reduction in introduced predator activity, measured using trace plots, tracking and camera monitoring data in the short -to-medium term, with reductions maintained over the long term
 - a reduction in predator-related mortality of each target species, with regular reporting on non-target species interactions and impacts in the short term, and sustained reductions demonstrated over the long term; and
 - monitoring is undertaken at least triennially to demonstrate that performance criteria are being met over the medium and long term.

Priority 3: Fire management and prevention

- Objective: To reduce habitat alteration caused by frequent, hot, large and uncontrolled fires, which modify nesting and foraging resources for the relevant species.
- Focus:
 - understand the baseline fire history of the offset area, using a combination of surveys, fire scar analysis and vegetation mapping
 - develop and implement strategic and culturally informed burn regimes in line with IPA management plans and greater bilby recovery plan and considering baseline data for each of the six offset species and
 - use planned small, and seasonal burns of varying intensity to create habitat mosaics of varying seral ages that enhance relevant shelter and foraging conditions and provide a range of conditions required for differing needs of the greater bilby, e.g. foraging, shelter, breeding.
- Performance Criteria:
 - A reduction in the frequency and spatial extent (patch size) of unplanned high-intensity fires caused by lightning strike in the medium to long term.
 - improved post-fire vegetation recovery and habitat quality, tracked by vegetation surveys and remote sensing, including increased typical species richness and abundance and reduction in richness, abundance and cover of successional species in each vegetation type and following both planned and unplanned fires in the medium to long term
 - annual monitoring to demonstrate fire management is having a positive effect on greater bilby population and distribution and is not having a negative impact on populations and distribution of the five priority listed offset species; and
 - demonstrated inclusion of traditional owner input to fire management planning and involvement in on-ground management activities in the short term and maintained over the long term.

Priority 4: Manage and monitor habitat degradation

- Objective: To reduce habitat degradation caused by:
 - trampling and foraging by introduced herbivores, particularly cattle, camels and rabbits,
 - unplanned disturbance and access track creation; and
 - weed invasion.
- Focus:
 - establish target areas or control events through initial baseline surveys and consultation with relevant stakeholders and specialists
 - identify, map and rehabilitate unapproved and unnecessary access points and tracks
 - identify, map and eradicate weed infestations
 - consider exclusion fencing in important habitat/burrow sites and water resources to ensure short-term protection of key habitat areas
 - control and monitoring of introduced herbivore populations through baiting, trapping and shooting programs over extended periods, i.e. >2 years for any given control and monitoring event, and in consideration of seasonal and baseline data and breeding cycles
 - use of non-toxic techniques and best practices to minimise impact on non-target species, and
 - monitor introduced herbivore activity via camera traps, helicopter surveys and track surveys to assess success.
- Performance Criteria:
 - reduction in introduced herbivore activity, measured by trace plots, tracking and camera data in the short to medium term and maintained in the long-term
 - decrease in evidence and spatial area of trampling and burrow destruction in the short term and maintained in the long term
 - reduced number of access tracks (where appropriate and practicable) and rehabilitation of unnecessary disturbed areas in the short to medium term and maintained in the long term; and
 - reduced distribution/spatial area of introduced weeds, particularly infestations (i.e. large number or area of weeds causing degradation) in the short to medium term and no new infestations in the long term.

Priority 5: Community and indigenous engagement

- Objective: Foster local community involvement and integrate traditional ecological knowledge into conservation efforts for each of the relevant species.
- Focus:
 - collaborate with Traditional Owners and Indigenous Ranger groups in the management of habitats, and
 - encourage the inclusion of Indigenous land management practices in the development and implementation of conservation actions.

- Performance Criteria:
 - inclusion of traditional ecological knowledge in land management plans and practices in the short term and maintained over the long term
 - increase in number of full-time or part-time employment opportunities created for Indigenous community members in land management and conservation projects in the short term, and
 - establishment of formal, long-term agreements or partnerships with Indigenous communities regarding land management and conservation.

The Recovery Plan has identified a range of ‘bilby sites’, which includes all locations where it is possible that greater bilby may persist, either naturally or as a result of being reintroduced. The majority of the Winu DE is located in the Nyangumarta Warrarn IPA, which is listed as a greater bilby recovery action site.

The overarching environmental outcomes of the on-ground management actions are as follows:

- habitat critical to the survival of the greater bilby (critical habitat) and an important population of this species will continue to be available within the Offset Area
- critical habitat for the brush-tailed mulgara, northern marsupial mouse, Dampierland plain slider, spectacled hare-wallaby and western pebble-mound mouse will continue to be available within the Offset Area; and
- management and conservation measures will be implemented in consultation with the Nyangumarta People and Martu People.

4.6.4 Project offset timeframes

Specific and measurable objectives for the Offset Projects will be defined across multiple timeframes to ensure both immediate actions and long-term conservation gains, and will include:

- **Annual Objectives:** Short-term targets that measure immediate progress of management interventions, enabling adaptive management approaches and early identification of implementation challenges
- **Five-yearly Objectives:** Medium-term milestones that assess ecological responses and management effectiveness, allowing for strategic adjustments to the offset program; and
- **Ten-year Outcomes:** Long-term conservation goals focused on demonstrating real change at a landscape scale. These extended timeframes recognise that conservation and restoration projects in highly variable, spatially heterogeneous and episodic environments like the Great Sandy Desert often require multiple years to measure meaningful improvements in ecosystem health and species populations.

This multi-tiered approach to objective setting will ensure that while immediate progress is tracked and reported, the OMP maintains focus on delivering substantial, enduring conservation benefits for the relevant species’ habitat.

4.6.5 Integration with existing regional programs

The design and implementation of the Offset Projects will build upon successful regional programs, planning frameworks, and research initiatives, including but not limited to:

- **IPA Management Plans and Indigenous Ranger Programs:** Collaboration with established Nyangumarta and Martu Ranger programs, leveraging their deep cultural knowledge, land management expertise, and ongoing conservation activities within the region and in line with the relevant management plans
- **The Recovery Plan for the Greater Bilby:** Alignment with and contribution to the national recovery efforts outlined in the Recovery Plan, ensuring offset activities directly support species-wide conservation objectives and are in line with this recovery plan

- **Pilbara Bilby Research Program:** Incorporation of scientific findings, monitoring methodologies, and conservation approaches developed through this regional research initiative
- **Existing Environmental Offset Projects:** Coordination with and learning from offset projects implemented by other mining companies in the region, promoting complementary actions and avoiding duplication of efforts; and
- **Government Programs:** Integration with State government initiatives led by the Department of Biodiversity, Conservation and Attractions (DBCA) and Department of Primary Industries and Regional Development (DPIRD) focused on fire management, weed control, and feral animal management.

By building upon these established programs and frameworks, the OMP will enhance regional conservation coherence, maximise cost-effectiveness through shared resources and knowledge, and contribute to landscape-scale outcomes that benefit each of the state and Commonwealth species' as well as other protected species populations occurring in the landscape, beyond the boundaries of the Offset Area.

4.7 Offset governance

A robust governance framework will be established to oversee the implementation and management of the Winu Mine Managed Offset Fund. This framework is designed to ensure transparency, cultural integrity, and accountability throughout the life of the offset program.

4.7.1 Offset governance committee

The Offset Governance Committee will be the primary decision-making body responsible for guiding the strategic direction of the offset program. The committee will comprise:

- one representative from the Nyangumarta Warrarn Traditional Owner group
- one representative from the Martu Traditional Owner group
- one representative from Rio Tinto, and
- two independent members, selected for their expertise in environmental management, Indigenous engagement, or offset governance.

This diverse composition ensures that the governance process is inclusive, culturally informed, and aligned with both regulatory expectations and community values.

4.7.2 Roles and responsibilities

The Offset Governance Committee will be responsible for:

- reviewing and approving proposed offset projects in accordance with the Offset Strategy and Offset Management Plan (OMP)
- identifying potential offset opportunities that align with conservation priorities and Traditional Owner objectives
- overseeing the implementation of approved projects and monitoring progress against agreed objectives and performance indicators
- ensuring that offset activities remain compliant with regulatory requirements and adaptive to emerging risks or challenges
- evaluating the effectiveness of completed projects against the established performance criteria
- facilitating knowledge sharing and collaboration between stakeholders, and
- providing recommendations for adaptive management where required.

The Offset Governance Committee will have the authority to engage additional experts in relation to one or more of the offset species for review and advice as required, particularly at key milestones, e.g. baseline surveys, project development, monitoring and reporting.

4.7.3 Meeting frequency and reporting

The Committee will meet every 6 months, or sooner if required, to review progress and address emerging issues. The following reporting and reviews will be undertaken:

- Annual reports documenting offset activities, expenditure, and outcomes will be prepared and submitted to relevant regulatory authorities.
- Five-yearly comprehensive reviews will assess medium-term progress against objectives and inform strategic adjustments, and
- Ten-year evaluations will measure long-term conservation outcomes and guide future directions.

4.7.4 Transparency

All decisions and activities of the Offset Governance Committee will be documented and made available through the annual OMP reporting process (see Section 5.2). This ensures alignment between governance oversight and regulatory compliance, while maintaining transparency for all stakeholders.

4.7.5 Decision making framework

The Committee will employ a consensus-based approach to decision-making that:

- prioritises actions with the greatest conservation benefit for the relevant species
- respects and incorporates Traditional Ecological Knowledge
- ensures appropriate use of offset funding
- maintains alignment with the guiding principles outlined in Section 4.6.1; and
- supports adaptive management in response to monitoring data and changing conditions

This governance framework ensures that offset activities deliver transparent, accountable, and effective conservation outcomes for the relevant species while maintaining alignment with regulatory requirements and stakeholder expectations.

5 Delivery of the offsets projects

5.1 Roles and responsibilities

Overall accountability for implementing the OMP and reporting on the implementation of Offset Projects will rest with the Rio Tinto Winu Environment Manager.

Third parties undertaking Offset Projects on behalf of Rio Tinto are responsible for the implementation of the Offset Project as specified within their contract and/or scope of works. Those parties will report to Rio Tinto on the implementation of the Offset Projects so that Rio Tinto can in turn report to the DCCEE and DWER on the progress of the Offset Projects.

Rio Tinto has decided the most appropriate way to obtain expert advice relating to Offset Projects is to consult directly with specialists (e.g. WA DBCA, Greater Bilby Recovery Team). The aim is to bring together species experts, key stakeholders and Rio Tinto representatives with the purpose of providing advice on Offset Project concepts, design and implementation.

5.2 Reporting

5.2.1 Compliance annual reporting

Compliance of the OMP against conditions of the EPBC Act and EPA approvals will be reported annually on progress made in the previous calendar year. Annual reports for the Offset Area will include (for the previous calendar year):

- any direct or indirect disturbance to habitat for the greater brush-tailed mulgara, northern marsupial mouse, Dampierland plain slider, spectacled hare-wallaby and western pebble-mound mouse
- list of Offset Projects commenced, on-going, or concluded (if applicable)
- status of existing Offset Projects (if applicable), including:
 - Offset Project schedule (commencement date, proposed end date)
 - funds expended on Offset Projects by Rio Tinto in the last year, including financial milestones
 - status of Offset Project objectives and progress towards performance criteria, milestones and targets
 - any Offset Project risks realised, and corrective actions implemented; and
- stakeholder consultation undertaken in the last year.

Third parties undertaking Offset Projects funded by Rio Tinto will provide regular reports to Rio Tinto on the Offset Project status. The main points from these reports will be summarised in Rio Tinto's OMP annual report to the DCCEE and DWER. Any publications relating to Offset Projects released in the preceding year will also be provided.

5.3 Evaluation

The OMP will establish a comprehensive evaluation framework that integrates monitoring, reporting, and evaluation activities across all Offset Projects. This framework will systematically assess whether:

- environmental values are being enhanced to meet or exceed required improvement thresholds
- implemented Offset Projects align with and fulfill the environmental offset policies of both WA and Commonwealth governments; and
- fund management adheres to established governance frameworks while effectively building upon successful regional initiatives and maintaining productive engagement with stakeholders, including Indigenous Ranger groups

Evaluations, which may be in the form of monitoring, reviews and auditing, of each Offset Project will be conducted according to the timing specified in their respective performance criteria as detailed in the OMP. This schedule-based approach aligns assessment intervals with ecological processes, seasonal factors, and project-specific milestones. These targeted evaluations will:

- measure progress toward meeting individual performance criteria established for each priority management action (predator control, fire management, habitat restoration, and community engagement)
- track quantifiable outcomes against baseline conditions to demonstrate measurable improvement
- identify any performance shortfalls that require corrective action or strategic adjustment; and
- document successful approaches that exceed performance targets

These assessments will incorporate input from qualified species experts and land management specialists to ensure robust and credible evaluation.

The evaluation process will directly inform the refinement of Offset Projects through an adaptive management approach, allowing for strategic adjustments based on evaluation results, emerging scientific knowledge, and changing environmental conditions.

5.4 Adaptive implementation of the offset strategy

The OMP will adopt an adaptive implementation framework to ensure responsiveness to emerging information, evolving conditions, and new conservation opportunities. This adaptive approach allows for continuous improvement based on lessons learned during the implementation of Offset Projects, as well as insights gained from broader regional conservation initiatives. Key elements of this approach include:

- **Periodic review and revision:** Annual reports will document offset activities, expenditure, and outcomes, and will be submitted to the relevant regulatory authorities. Five-yearly comprehensive reviews will assess medium-term progress against objectives and inform strategic adjustments. Every five years, the OMP Governance Committee will conduct a formal review of the approved Offset Management Plan (OMP), considering new data, implementation experiences, and evolving conservation priorities. Updates to the OMP may be made based on the outcomes of these reviews. In addition, ten-year evaluations will measure long-term conservation outcomes and guide future directions.
- **Expansion of Offset Project areas:** Where evidence of greater bilby or other state-listed priority species' presence is detected—such as increased signs or activity—within properties already included in an Offset Project, the scope of those areas may be expanded to enhance protection and support recovery efforts.
- **Integration of external knowledge:** Findings from other relevant conservation projects, even those outside the formal Offset Projects, will be considered and incorporated into recovery actions and

supporting strategies (e.g., monitoring techniques, habitat management practices) as outlined in the OMP.

This adaptive management strategy ensures the OMP remains dynamic, science-based, and capable of maximising ecological outcomes for target species, such as the greater bilby.

6 Compliance with offset principles

6.1 EPBC Act offset principles

Table 10 provides a summary of how this Offset Strategy and associated OMP will meet the objectives of the EPBC EOP.

Table 10: EPBC Act overarching principles in determining offset suitability

EPBC Act Offset Principle	Compliance
1. Offsets must deliver an overall conservation outcome that improves or maintains the viability of the protected matter	The Offset Management Plan (Section 0) will deliver measurable conservation outcomes by implementing targeted, landscape-scale actions—such as predator control, fire management, and habitat restoration—that address key threats to the greater bilby in alignment with the Recovery Plan objectives (Section 4.6). These actions, supported by Indigenous-led land management (Section 0, Priority 4) and guided by a structured monitoring and review framework (Section 4.6.4), are designed to maintain or improve the species' viability over time.
2. Offsets must be built around direct offsets but may include other compensatory measures	The Offset Area will be located within Nyangumarta Warrarn and Martu IPAs on extensive land use zone of the State where the land is almost exclusively Crown land overlain by pastoral leases and mining interests, therefore there is almost no opportunity for land acquisition to occur. The purchase of the nearest available land is not considered comparable habitat and is located hundreds of kilometres away from the Project locality. As such, it is unlikely to provide the local on-ground benefits to the greater bilby in the Project region. Instead, this Offset Strategy has focused on addressing current key threats to the greater bilby through direct offset via on-ground management. Rio Tinto believes this proactive approach has the potential for the most positive long-term environmental and social outcomes for the greater bilby within the Project region.
3. Offsets must be in proportion to the level of statutory protection that applies to the protected matter	The proposed on-ground conservation activities will enable further protection of the greater bilby populations on the Nyangumarta Warrarn and Martu IPAs. The Offset Management Plan (OMP) meets the requirement that offsets be proportionate to the level of statutory protection by delivering landscape-scale conservation actions (Section 0) that reflect the greater bilby's status as a vulnerable species under the EPBC Act. These actions—aligned with the Recovery Plan objectives (Section 4.6) and supported by a robust monitoring framework (Section 4.6.4)—are designed to achieve conservation outcomes commensurate with the species' national significance and legal protection. The conservation status of the impacted protected matters (i.e. vulnerable) is also incorporated by the OAG in calculating the area of the offset to be provided.
4. Offsets must be of a size and scale proportionate to the residual impacts on the protected matter	To ensure the offset proposed is of a suitable size and scale, an indicative Offset Area value has been calculated using the OAG. The contribution amount to be paid towards the Offset Projects (as detailed in section 4.5.1) is a proxy value determined based on the CPI-adjusted rates referenced in the <i>Approval: Thunderbird Mineral Sands Project, WA (EPBC 2016/7648)</i> (Department of the Environment and Energy, 2018). This is considered proportionate to the scale of the residual impacts on the greater bilby, ensuring that the offset delivers conservation outcomes commensurate with the significance of the impact and the ecological requirements of the species.

EPBC Act Offset Principle	Compliance
5. Offsets must effectively account for and manage the risks of the offset not succeeding	To effectively manage the risk of offset failure, the Offset Management Plan (OMP) incorporates a multi-tiered monitoring and review framework (Section 4.6.4), enabling adaptive management and early intervention if outcomes deviate from expectations. Offset Projects will be selected based on demonstrated feasibility, clear performance criteria (Section 0), and the capability of proponents to deliver results (Section 4.6.2). Annual reporting, five-yearly reviews, and ten-year evaluations will ensure ongoing oversight, while the use of proven land management techniques and engagement with experienced Indigenous Ranger groups further reduces implementation risk. This structured approach ensures that risks are identified, mitigated, and managed throughout the life of the offset.
6. Offsets must be additional to what is already required, determined by law or planning regulations, or agreed to under other schemes or programs	The Proposed Greater Offset Area is currently managed under existing management plans for the Nyangumarta Warrarn and Martu IPAs. As identified within this Offset Strategy (refer to Section 4.4), Offset Projects within the Proposed Greater Offset Area will be in addition to the existing management measures currently employed within these areas. Specific details on how the proposed Offset Projects (i.e. on-ground management) will be ‘in addition to’ existing management plans, will be developed during engagement with relevant stakeholders (i.e. IPA Rangers, Government agencies) and provided in the finalised OMP.
7. Offsets must be efficient, effective, timely, transparent, scientifically robust and reasonable	Proposed on-ground conservation/management actions within the OMP will build upon existing Recovery Plans, as well as IPA management plans for the Nyangumarta Warrarn and Martu IPA Rangers. The OMP will adopt an adaptive implementation approach to respond to new information and opportunities over time to ensure a gain in conservation values for the greater bilby. Lessons learned from implementing Offset Projects, and from regional conservation projects, can be addressed in new Offset Projects.
8. Offsets must have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced	The Offset Management Plan (OMP) has transparent governance arrangements to ensure accountability and enforceability. All Offset Projects will be subject to clearly defined performance criteria (Section 0), with progress tracked through annual reporting, five-yearly reviews, and ten-year evaluations (Section 4.6.4). These reports will be submitted to relevant regulatory authorities and made available for audit. The OMP Governance Committee will oversee implementation, review project outcomes, and ensure compliance with regulatory and contractual obligations. This structured and transparent framework enables consistent monitoring, independent verification, and enforcement of offset commitments.

6.2 WA offset principles

Table 11 provides a summary of how the Offset Strategy meets the objectives of the WA EOP.

Table 11: WA Environmental offsets policy principles

Offset Principle	Compliance
1. Environmental offsets will only be considered after avoidance, and mitigation options have been pursued	The Project has been designed to avoid and minimise environmental impacts to the greatest extent possible as described in Section 2.3; however, the mine layout is dependent on the underlying geology and operational processing requirements. Avoidance and mitigation measures were considered as part of the impact assessment and identification of significant residual impacts on protected species for the Environmental Impact Statement (EIS) as part of the Environmental Review Document (ERD). To avoid and minimise any further impacts on environmental values as part of construction and operation, Rio Tinto will implement a range of mitigation measures as detailed in Section 3.4.1.3.6.
2. Environmental offsets are not appropriate for all projects	This Offset Strategy acknowledges that environmental offsets are not suitable for all types of impacts, particularly where the loss is irreversible or the protected matter is critically endangered. In this case, the residual impacts on the greater bilby have been assessed as capable of being offset through well-designed, evidence-based conservation actions that align Recovery Plans (Section 4.6). The proposed offsets are proportionate, feasible, and targeted at key threats, ensuring that they can deliver measurable and enduring conservation outcomes. This approach is consistent with Western Australia Environmental Offsets Policy, which allows offsets where impacts are significant but not unacceptable.
3. Environmental offsets will be cost-effective, as well as relevant and proportionate to the significance of the environmental value being impacted	To ensure the offset proposed is cost effective as well as relevant and proportionate to the significance of the environmental value being impacted, an indicative Offset Area value has been calculated using the OAG. The contribution amount to be paid towards the Offset Projects is a proxy value determined based on the CPI-adjusted rates referenced in the <i>Approval: Thunderbird Mineral Sands Project, WA (EPBC 2016/7648)</i> (Department of the Environment and Energy, 2018) (as detailed in section 4.5.1).
4. Environmental offsets will be based on sound environmental information and knowledge	The Offsets Projects will build on existing conservation and management programs as well as recovery plans already being implemented in the Great Sandy Desert for the greater bilby, to sustain the conservation gains already achieved and which will benefit the state-listed priority species. Combined, this will effectively strengthen potential for greater outcomes for the priority-listed species and will not result in a diluted effort to accommodate a broader area.
5. Environmental offsets will be applied within a framework of adaptive management	As outlined in Section 4, this Offset Strategy and the OMP will adopt an adaptive implementation approach to respond to new information and opportunities over time. Lessons learned from implementing Offset Projects, and from regional conservation projects, can be addressed in new Offset Projects.

Offset Principle	Compliance
6. Environmental offsets will be focussed on longer term strategic outcomes	This Offset Strategy is designed to deliver long-term strategic conservation outcomes for all priority-listed species by aligning offset actions with the greater bilby Recovery Plan objectives and which will also benefit each of the five state-listed priority species that largely occupy the same habitats and/or nearby landscapes (i.e. in the case of the western pebble-mound mouse) (Section 4.6). Through a multi-tiered objective framework (Section 4.6.4), the OMP will ensure that short-term actions contribute to enduring ecological benefits, such as improved habitat quality, population resilience, and landscape-scale threat mitigation. The ten-year evaluation cycle further reinforces the commitment to achieving measurable, lasting improvements in the viability of the species' and their habitats.

7 Conclusion

Rio Tinto is proposing to develop the Winu Mine, located 320 km east of the town of Port Hedland in Western Australia. Significant residual impacts to the EPBC Act-listed greater bilby habitat cannot be avoided and up to 4,498 ha of habitat that meets the definition of ‘habitat critical to the survival of the species’ will be cleared. This area also provides habitat for the state-listed brush-tailed mulgara, northern marsupial mole, Dampierland plain slider and spectacled hare-wallaby. A significant residual impact to an additional 238 ha of critical habitat for the state-listed western pebble-mound mouse is also proposed. It is anticipated that Project impacts will result in a significant residual impact to critical habitat for these species and will require state and Commonwealth compensatory offsets. Environmental offsets for the species are likely to be required in accordance with the WA EOP and EPBC EOP.

To address these residual impacts, Rio Tinto proposes a strategic approach to offsets through establishment of a managed offset fund. It is proposed that Rio Tinto will contribute a total of \$14,809,472 to the fund to implement the Offset Projects over an area of 25,970 ha (Offset Area). A managed fund model is considered an appropriate mechanism to enable funding of a third party to undertake agreed Offset Projects to achieve a conservation gain for the species. The Offset Projects will focus on direct offsets through on-ground programs targeting key threats to the greater bilby as a core objective and which will also benefit the five state-listed priority species required to be offset. These programs will include management of:

- feral predators
- inappropriate fire regimes
- habitat degradation; and
- community and indigenous engagement.

An approved OMP, developed in alignment with this Offset Strategy, will ensure that compensatory measures are appropriately targeted and implemented. Key components of the OMP will include:

- direct engagement with the Nyangumarta and Martu peoples to support and strengthen land management practices on their respective IPAs
- delivery of meaningful long-term and coordinated conservation outcomes for the EPBC Act-listed greater bilby and five state-listed priority species through threat mitigation and habitat management; and
- wholistic ecosystem benefits encompassing fauna, vegetation communities, water resources and cultural values of the offset area and broader landscape through reduction of landscape-wide threats such as feral animal pressures and altered fire regimes.

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Appendix A EPBC Act OAG output and Justification

A.2 OAG output

A.3 OAG values justification

Attribute	Input	Justification										
Impact calculator												
Impact area (ha)	4,498	This is the area required to be offset for the Project according to the EPBC Act referral (2025/10208). This referral will be withdrawn and replaced with a revised referral in August 2024.										
Quality of Impact Area	8	The start quality of greater bilby habitat within the DE is calculated to be a 8 out of 10 in accordance with the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022) as below:										
		<table><tr><th>Metric</th><th>Score and reason</th></tr><tr><td>Site condition (Trudgen vegetation condition scale)</td><td>Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.</td></tr><tr><td>Site context</td><td>High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and give the site is within the impacted part of the species range.</td></tr><tr><td>Habitat attributes</td><td>High habitat attributes (9) given the DE provides foraging, nesting and dispersal habitat.</td></tr><tr><td>Overall score</td><td>8.33 (8 rounded)</td></tr></table>	Metric	Score and reason	Site condition (Trudgen vegetation condition scale)	Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.	Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and give the site is within the impacted part of the species range.	Habitat attributes	High habitat attributes (9) given the DE provides foraging, nesting and dispersal habitat.	Overall score	8.33 (8 rounded)
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Site condition (Trudgen vegetation condition scale)	Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.											
Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and give the site is within the impacted part of the species range.											
Habitat attributes	High habitat attributes (9) given the DE provides foraging, nesting and dispersal habitat.											
Overall score	8.33 (8 rounded)											
Offset calculator												
Start quality of Offset Area	8	The start quality of greater bilby habitat within the Proposed Greater Offset Area is calculated to be a 8 out of 10 in accordance with the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022) as below.										
		<table><tr><th>Metric</th><th>Score and reason</th></tr><tr><td>Site condition (Trudgen vegetation condition scale)</td><td>Very good to excellent (8): no obvious signs of damage caused by human activities since European settlement; except for cleared access tracks, drill pads and existing infrastructure areas which are considered disturbed.</td></tr><tr><td>Site context</td><td>High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and give the site is within the impacted part of the species range.</td></tr><tr><td>Habitat attributes</td><td>High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat</td></tr><tr><td>Overall score</td><td>8.66 (9 rounded)</td></tr></table>	Metric	Score and reason	Site condition (Trudgen vegetation condition scale)	Very good to excellent (8): no obvious signs of damage caused by human activities since European settlement; except for cleared access tracks, drill pads and existing infrastructure areas which are considered disturbed.	Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and give the site is within the impacted part of the species range.	Habitat attributes	High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat	Overall score	8.66 (9 rounded)
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Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and give the site is within the impacted part of the species range.											
Habitat attributes	High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat											
Overall score	8.66 (9 rounded)											

Attribute	Input	Justification										
Future quality with offsets	9	The future quality of greater bilby habitat within the Offset Area is calculated to be a 9 out of 10 in accordance with the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022) as below.										
		<table><tr><th>Metric</th><th>Score and reason</th></tr><tr><td>Site condition (Trudgen vegetation condition scale)</td><td>Very good to excellent (8): It is estimated that with the implementation of management plans which include weed reduction and fire management that the site condition can improve over the life of the offset.</td></tr><tr><td>Site context</td><td>High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species range.</td></tr><tr><td>Habitat attributes</td><td>High habitat attributes (9.5): It is estimated that with management measures that threats for greater bilby will be decreased, therefore increasing the value of foraging, nesting and dispersal habitat.</td></tr><tr><td>Overall score</td><td>8.83 (9 rounded)</td></tr></table>	Metric	Score and reason	Site condition (Trudgen vegetation condition scale)	Very good to excellent (8): It is estimated that with the implementation of management plans which include weed reduction and fire management that the site condition can improve over the life of the offset.	Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species range.	Habitat attributes	High habitat attributes (9.5): It is estimated that with management measures that threats for greater bilby will be decreased, therefore increasing the value of foraging, nesting and dispersal habitat.	Overall score	8.83 (9 rounded)
		Metric	Score and reason									
		Site condition (Trudgen vegetation condition scale)	Very good to excellent (8): It is estimated that with the implementation of management plans which include weed reduction and fire management that the site condition can improve over the life of the offset.									
		Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species range.									
Habitat attributes	High habitat attributes (9.5): It is estimated that with management measures that threats for greater bilby will be decreased, therefore increasing the value of foraging, nesting and dispersal habitat.											
Overall score	8.83 (9 rounded)											
Future quality without offsets	8	Due to the already pristine nature of the Proposed Greater Offset Area and given that management measures are already being undertaken within the area, it is considered that future quality of the Offset Area will remain consistent with the start quality.										
		<table><tr><th>Metric</th><th>Score and reason</th></tr><tr><td>Site condition (Trudgen vegetation condition scale)</td><td>Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.</td></tr><tr><td>Site context</td><td>High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species range.</td></tr><tr><td>Habitat attributes</td><td>High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat</td></tr><tr><td>Overall score</td><td>8.33 (8 rounded)</td></tr></table>	Metric	Score and reason	Site condition (Trudgen vegetation condition scale)	Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.	Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species range.	Habitat attributes	High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat	Overall score	8.33 (8 rounded)
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		Site condition (Trudgen vegetation condition scale)	Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.									
		Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species range.									
Habitat attributes	High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat											
Overall score	8.33 (8 rounded)											
Confidence in result	85%	As management measures such as weed management, fire management and pest fauna management reduce threats on the species while increasing habitat quality, the confidence in the Offset Area habitat quality being improved is rated at 85%.										
Risk of loss without offsets	15%	The Risk of loss has been estimated with guidance from the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022).										

Attribute	Input	Justification
		As per Table 2 of the guidance document, a risk of loss value of 15% has been estimated given that the Proposed Greater Offset Area is an existing reserve with some risk that the site could be cleared over the next 20 years.
Risk of loss with offsets	5%	The Risk of loss has been estimated with guidance from the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022). IPAs are dedicated under International Union for Conservation of Nature (IUCN) Categories 5 and 6 (National Indigenous Australians Agency (NIAA), 2024), therefore according to Table 3 of the guidance document, a risk of loss value of 5% has been estimated for the Offset Area. *Rio Tinto notes that this value may change upon consultation with DCCEEW and DWER given the uncertainty of the future legal security of the Offset Area.
Confidence in risk of loss	80%	The confidence in risk of loss is estimated to be 80% given that the Proposed Greater Offset Area is located within existing IPAs and any future projects potentially impacting values within these areas would be subject to the associated environmental approval process (State and/or Commonwealth). Acknowledging on-ground management contributions outlined within this Offset Strategy (and IPA Management Plans), it is anticipated conservation benefits associated with known greater bilby populations/habitat would be considered and avoided/minimised for any future projects in the region.
Risk related time horizon	20	The Offset Area is proposed to be protected by a legally binding mechanism which will remain in effect as required by the applicable state and Commonwealth legislative requirements, therefore, the time over which loss is averted is the maximum allowable time of 20 years.
Time until ecological benefit (years)	20	The reduction of threats to the greater bilby will be managed through the implementation of the OMP. It is estimated that the resulting benefit of this management will be realised in 20 years.



Appendix B DWER EOC

B.2 EOC Calculator output

B.3 EOC values justification

Attribute	Input	Justification										
Impacts												
Significant Residual Impact (ha)	4736	This is the area required to be offset for the Project according to the EPA referral (APP-0025007).										
Rehabilitation credit	N/A	No rehabilitation will be undertaken for the Project										
Quality of Impact Area	8	The start quality of habitat within the DE is calculated to be a 8 out of 10 in accordance with the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022) as below:										
		<table><tr><th>Metric</th><th>Score and reason</th></tr><tr><td>Site condition (Trudgen vegetation condition scale)</td><td>Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.</td></tr><tr><td>Site context</td><td>High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species' ranges.</td></tr><tr><td>Habitat attributes</td><td>High habitat attributes (9) given the DE provides foraging, nesting and dispersal habitat.</td></tr><tr><td>Overall score</td><td>8.33 (8 rounded)</td></tr></table>	Metric	Score and reason	Site condition (Trudgen vegetation condition scale)	Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.	Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species' ranges.	Habitat attributes	High habitat attributes (9) given the DE provides foraging, nesting and dispersal habitat.	Overall score	8.33 (8 rounded)
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Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species' ranges.											
Habitat attributes	High habitat attributes (9) given the DE provides foraging, nesting and dispersal habitat.											
Overall score	8.33 (8 rounded)											
Offset calculator												
Current quality of offset site (scale)	8	The start quality of habitat within the Proposed Greater Offset Area is calculated to be a 9 out of 10 in accordance with the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022) as below.										
		<table><tr><th>Metric</th><th>Score and reason</th></tr><tr><td>Site condition (Trudgen vegetation condition scale)</td><td>Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.</td></tr><tr><td>Site context</td><td>High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and give the site is within the impacted part of the species' ranges.</td></tr><tr><td>Habitat attributes</td><td>High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat</td></tr><tr><td>Overall score</td><td>8.33 (8 rounded)</td></tr></table>	Metric	Score and reason	Site condition (Trudgen vegetation condition scale)	Very good (7) given the relatively slight signs of damage caused by the activities of Europeans.	Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and give the site is within the impacted part of the species' ranges.	Habitat attributes	High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat	Overall score	8.33 (8 rounded)
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Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and give the site is within the impacted part of the species' ranges.											
Habitat attributes	High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat											
Overall score	8.33 (8 rounded)											

Attribute	Input	Justification										
Future quality with offsets	9	The future quality of habitat within the Offset Area is calculated to be a 9 out of 10 in accordance with the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022) as below.										
		<table><tr><th>Metric</th><th>Score and reason</th></tr><tr><td>Site condition (Trudgen vegetation condition scale)</td><td>Very good to excellent (8): It is estimated that with the implementation of management plans which include weed reduction and fire management that the site condition can improve over the life of the offset.</td></tr><tr><td>Site context</td><td>High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species' ranges.</td></tr><tr><td>Habitat attributes</td><td>High habitat attributes (9.5): It is estimated that with management measures that threats for the five priority species will be decreased, therefore increasing the value of foraging, nesting and dispersal habitat.</td></tr><tr><td>Overall score</td><td>8.83 (9 rounded)</td></tr></table>	Metric	Score and reason	Site condition (Trudgen vegetation condition scale)	Very good to excellent (8): It is estimated that with the implementation of management plans which include weed reduction and fire management that the site condition can improve over the life of the offset.	Site context	High site context (9) given the site is well connected to areas of native vegetation, provides landscape scale connectivity and given the site is within the impacted part of the species' ranges.	Habitat attributes	High habitat attributes (9.5): It is estimated that with management measures that threats for the five priority species will be decreased, therefore increasing the value of foraging, nesting and dispersal habitat.	Overall score	8.83 (9 rounded)
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Habitat attributes	High habitat attributes (9.5): It is estimated that with management measures that threats for the five priority species will be decreased, therefore increasing the value of foraging, nesting and dispersal habitat.											
Overall score	8.83 (9 rounded)											
Future quality without offsets	8	Due to the already pristine nature of the Proposed Greater Offset Area and given that management measures are already being undertaken within the area, it is considered that future quality of the Offset Area will remain consistent with the start quality.										
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Habitat attributes	High habitat attributes (9) given the Proposed Greater Offset Area provides foraging, nesting and dispersal habitat											
Overall score	8.33 (8 rounded)											
Confidence in offset result	85%	As management measures such as weed management, fire management and pest fauna management reduce threats on the species while increasing habitat quality, the confidence in the Offset Area habitat quality being improved is rated at 85%.										

Attribute	Input	Justification
Risk of future loss without offsets	15%	The Risk of future loss has been estimated with guidance from the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022). Consistent with Table 2 of the guidance document, a risk of loss value of 15% has been adopted, reflecting that the Proposed Greater Offset Area is an existing reserve subject to some residual risk of loss over the next 20 years. While the area benefits from IPA designation and broader legislative protections, these mechanisms do not entirely preclude future disturbance or land-use change, including clearing associated with approved or future resource development, infrastructure, or changes in land-use policy. In remote Pilbara contexts, large portions of the surrounding landscape, including areas adjacent to IPAs, remain subject to development pressures notwithstanding conservation tenure. Legal protection under a binding conservation covenant or equivalent mechanism would substantially reduce the likelihood of land-use conversion; however, in the absence of the offset, residual risk remains across the development envelope and surrounding IPA lands. In addition, risk of future loss is driven not only by potential clearing but by ongoing ecological threats that act independent of tenure status. These include feral predation, altered or absent fire regimes, climate variability and stochastic events affecting threatened mammal populations. Accordingly, risk of future loss without the offset is assessed as moderate, reflecting both the plausible future development pathway and persistent ecological threats. With implementation of the offset, including long-term management, threat abatement and monitoring secured through the Offset Management Plan, the risk of future loss is reduced to low, though not eliminated, recognising that inherent ecological variability in arid Pilbara systems cannot be fully mitigated through tenure security alone.
Risk of future loss with offsets	5%	The Risk of future loss has been estimated with guidance from the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022). IPAs are dedicated under International Union for Conservation of Nature (IUCN) Categories 5 and 6 (National Indigenous Australians Agency (NIAA), 2024), therefore according to Table 3 of the guidance document, a risk of loss value of 5% has been estimated for the Offset Area. While the offset secures the site and substantially reduces these risks through funded and coordinated management, residual risk remains due to factors beyond management control. *Rio Tinto notes that this value may change upon consultation with DCCEEW and DWER given the uncertainty of the future legal security of the Offset Area.

Attribute	Input	Justification
Confidence in risk of future loss	80%	The confidence in risk of future loss is estimated to be 80% given that the Proposed Greater Offset Area is located within existing IPAs and any future projects potentially impacting values within these areas would be subject to the associated environmental approval process (State and/or Commonwealth). Acknowledging on-ground management contributions outlined within this Offset Strategy (and IPA Management Plans), it is anticipated conservation benefits associated with known greater bilby populations/habitat would be considered and avoided/minimised for any future projects in the region.
Risk related time horizon	20	The Offset Area is proposed to be protected by a legally binding mechanism which will remain in effect as required by the applicable state and Commonwealth legislative requirements, therefore, the time over which loss is averted is the maximum allowable time of 20 years.
Time until ecological benefit (years)	20	The reduction of threats to greater bilby within the Offset Area will be able to be implemented immediately and it is estimated that the resulting benefit of this management will be realised in 20 years.
Time until offset site secured (years)	4	In accordance with the <i>Draft Procedure for environmental offsets metric inputs</i> (DWER 2022) Table 6 the time has been estimated to be 4 years given that suitable land has not yet been identified, however has been considered an appropriate offset.