



stanmore

APPENDIX AH - SIGNIFICANT SPECIES MANAGEMENT PLAN



MNES SIGNIFICANT SPECIES MANAGEMENT PLAN

ISAAC DOWNS EXTENSION

Trend  Environmental
Consultants

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Prepared on behalf of
**STANMORE ID EXTENSION
PTY LTD**



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GLOSSARY

Term	Definition
Broad Vegetation Group	Broad Vegetation Groups (BVGSSs) are a higher-level grouping of vegetation communities. Queensland encompasses a wide variety of landscapes across temperate, wet and dry tropics and semi-arid to arid climatic zones. Broad vegetation groups provide an overview of vegetation communities across the state or a bioregion and allow comparison with other states.
Breeding Habitat	Habitat that supports reproduction and rearing of young, including required resources such as shelter, nesting/denning sites and food close to these sites (as defined per species in Table 10).
DCCEEW Key defining terms	DCCEEW defined key terms for MNES under the EPBC Act, used for assessing the potential for a significant impact on threatened species and ecological communities, and migratory species. These key terms include 'habitat critical to the survival of the species', 'important habitat', 'important population', 'important habitat for migratory species' and 'ecologically significant proportion of a migratory species population'.
Denning Habitat (Greater Glider)	Remnant connected eucalypt woodland or forest with a high availability of tree hollows used for shelter, diurnal refuge and breeding. A species-specific definition for the Greater Glider is provided in Table 10.
Desktop Assessment	Pre-field assessment including database searches, literature review, habitat evaluation and likelihood of occurrence ratings.
Dispersal Habitat	Habitat used for movement between higher-quality patches, often more fragmented or lower condition but still providing connectivity. Species-specific definitions are described in Table 10.
Disturbance area	Disturbance area: The disturbance area is the sum of the 'disturbance area on Project MLs' and the 'Additional disturbance area'. The disturbance area forms the basis for assessing terrestrial ecological impacts. The Survey area encompasses the disturbance area. Disturbance area on Project MLs: The disturbance area on the Project MLs represents the subset of the Project area (i.e., the four ML applications for the Project) where disturbance activities associated with the Project will occur (shown in Map 1 [Project Locality], Appendix A). This includes all open-cut operations, haul roads, spoil (overburden) dumps, water management infrastructure, and associated mine-related works required for the Project. Additional disturbance area: Areas totalling 2.5 ha on IDM ML 700046 that require an amendment to the IDM State approvals (EA and PRCP schedule) for connecting linear infrastructure with the Project, in areas not currently authorised for disturbance. The EPBC Referral for the Project includes the 'Additional disturbance area'. Subset of the Project area where direct Project disturbance will occur. Includes all mining and supporting infrastructure.
Disturbance area on Project MLs:	The disturbance area on the Project MLs represents the subset of the Project area (i.e., the four ML applications for the Project) where disturbance activities associated with the Project will occur (shown in Map 1 [Project Locality], Appendix A). This includes all open-cut operations, haul roads, spoil (overburden) dumps, water management infrastructure, and associated mine-related works required for the Project.
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Conservation Status	The EPBC Act lists threatened species in categories including: - Extinct in the wild: Only known to survive in cultivation, in captivity or as a naturalised population well outside its past range; or Not recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a timeframe appropriate to its life cycle and form. - Critically Endangered: Species is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria. - Endangered: Species is not critically endangered; and it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria. - Vulnerable: Species is not critically endangered or endangered; and it is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
Field Assessment	On-ground surveys verifying vegetation communities, REs, TECs, threatened and migratory species habitat and presence, watercourses, wetland, weeds/pests, and habitat condition.
Foraging Habitat	Habitat providing food resources and supporting movement between breeding/denning areas. Species-specific definitions are described in Table 10.



Term	Definition
GIS Mapping	Spatial analysis and map production used to quantify and present ecological values and impact extents
Habitat Critical to the Survival of a Species	Habitat Critical to the Survival of a Species as defined in the Commonwealth's statutory documents (e.g., referral guidelines, approved listing advice(s), approved conservation advice(s), recovery plan(s), threat abatement plan(s) or comparable policy guidelines, and information contained in relevant Commonwealth databases such as the SPRAT database.
Important Habitat	Important Habitat as defined in the Commonwealth's statutory documents (e.g., referral guidelines, approved listing advice(s), approved conservation advice(s), recovery plan(s), threat abatement plan(s) or comparable policy guidelines, and information contained in relevant Commonwealth databases such as the SPRAT database.
Important Population	Important Population as defined in the Commonwealth's statutory documents (e.g., referral guidelines, approved listing advice(s), approved conservation advice(s), recovery plan(s), threat abatement plan(s) or comparable policy guidelines, and information contained in relevant Commonwealth databases such as the SPRAT database.
Likelihood of Occurrence	A rating applied to threatened ecological communities and threatened, and migratory species based on habitat suitability and known records. Categories used are known to occur, likely to occur, may occur and unlikely to occur, as defined in Table 6.
Matters of National Environmental Significance	Protected matters under the EPBC Act, including Commonwealth-listed threatened ecological communities, threatened species, and migratory species.
Offset	A measurable conservation outcome required to compensate for significant impacts to MNES or significant residual impacts to MSES.
Progressive Rehabilitation and Closure Plan for mined land	A Progressive Rehabilitation and Closure Plan (PRCP) for mined land requires an EA holder to plan for how and where activities will be carried out on the land in a way that maximises the progressive rehabilitation of the land to a stable condition. The plan consists of two parts: a rehabilitation planning part and a PRCP schedule.
Project area	The area of the four ML applications for the Project.
Regional Ecosystem (RE)	A vegetation community recognised under Queensland's Vegetation Management framework, defined by bioregion, land zone and dominant species.
Regulated Vegetation	Vegetation regulated through Queensland's Planning Act 2016 (Planning Act) and Vegetation Management Act 1999 (VM Act).
Remnant Vegetation	Vegetation mapped as Category B under the VM Act retaining the structural and floristic characteristics of the RE.
Significant species and communities	Refers to species and Threatened Ecological Communities (TECs) listed as critically endangered, endangered or vulnerable under the EPBC Act,
Survey area	The survey area refers to the broader area assessed by ecologists during field surveys. This area extends beyond the defined Project area to ensure that ecological values in adjacent environments were adequately captured. Surveying a wider area enables a more comprehensive evaluation of potential impacts, particularly on surrounding habitats, species, and ecological processes that may be indirectly affected by the Project. The Survey area is shown on Map 1 [Project Locality], Appendix A. The Survey area includes portions of four (4) Lots located to the north and south of Cherwell Creek. The north includes 8SP277384, 5GV132 and 9GV33, to the south is 8SP277384 and 9GV33.
Threatened Ecological Community	An ecological community listed as threatened under the EPBC Act.
Threatened Species	Prescribed to a threatened species under the Commonwealth EPBC Act.
VM Act Status	This is a statutory classification under the Queensland VM Act: A RE is listed as 'endangered' if remnant vegetation for the RE is less than 10 % of its pre-clearing extent across the bioregion; or 10-30 % of its pre-clearing extent remains and the remnant vegetation for the RE is less than 10,000 hectares (ha).



Term	Definition
	• A regional ecosystem is listed as 'of concern' if remnant vegetation for the RE is 10-30 % of its pre- clearing extent across the bioregion; or more than 30 % of its pre- clearing extent remains and the remnant vegetation extent for the RE is less than 10,000 ha. • A regional ecosystem is listed 'least concern' if remnant vegetation for the RE is over 30 % of its pre-clearing extent across the bioregion, and the remnant vegetation area for the RE is greater than 10,000 ha.



1. INTRODUCTION

1.1 PROJECT DESCRIPTION

Stanmore ID Extension Pty Ltd (ID Extension, the Proponent), a wholly owned subsidiary of Stanmore Resources Limited (Stanmore), proposes to develop the Isaac Downs Extension Project (the Project), an open-cut metallurgical coal mine located in the Bowen Basin of central Queensland. The Project area is situated approximately 15 kilometres (km) southeast of Moranbah and 150 km southwest of Mackay, and it is an extension of the existing Isaac Plains Complex (IPC), which comprises the Isaac Plains Mine (IPM) and the Isaac Downs Mine (Map 1 [Project Locality] in Appendix A).

The Project will involve the extraction of approximately 46 million tonnes (Mt) of Run-of-Mine (RoM) coal over 15 years, at a production rate of approximately 2–4.5 Mt per annum. RoM coal will be transported to the Coal Handling and Preparation Plant (CHPP) at IPM for processing. The Project will share infrastructure with IDM, including the Mine Infrastructure Area (MIA), water management systems, and access roads.

The Proponent has prepared an Environmental Impact Statement (EIS) under the *Environmental Protection Act 1994* (Queensland; Qld; EP Act) for the Project. The EIS will support an environmental authority (EA) and Progressive Rehabilitation and Closure Plan (PRCP) schedule application under the EP Act. The Project's Referral under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth Cth; EPBC Act) is a controlled action (EPBC 2025/10183). The Project's Referral will be assessed by an accredited assessment process, being the EIS required under the EP Act.

Trend Environmental was commissioned by Stanmore to complete management plans as part of the EIS being prepared for the Project, including a Matters of National Environmental Significance (MNES) Significant Species Management Plan (SSMP).

This MNES-SSMP has been developed as supporting information for the EIS and to address the expectation that if approved, an SSMP would be required.

1.2 TERMINOLOGY

The following terms have been adopted throughout this MNES-SSMP and shown on the various maps where relevant:

Project: The proposed Isaac Downs Extension Project as described in the EIS Project description.

Project area: The area of the four ML applications for the Project.

Survey area: The Survey area refers to the broader area assessed by ecologists during field surveys. This area extends beyond the defined 'Project area' and 'Disturbance area' to ensure that ecological values in adjacent environments were adequately surveyed. Surveying a wider area enables a more comprehensive evaluation of potential impacts, particularly on surrounding habitats, species, and ecological processes that may be indirectly affected by the Project. The Survey area is shown on Map 1, Appendix A. The Survey area includes portions of four (4) Lots located to the north and south of Cherwell Creek. The north includes 8SP277384, 5GV132 and parts of 9GV33, and to the south is 8SP277384 and parts of 9GV33. All Lots are connected with the Winchester Downs pastoral station.

Disturbance area: The Disturbance area is the sum of the 'Disturbance area on Project MLs' and the 'Additional disturbance area'. The Disturbance area forms the basis for assessing terrestrial ecological impacts. The Survey area encompasses the disturbance area.

Disturbance area on Project MLs: *The Disturbance area on the Project MLs represents the subset of the Project area (i.e., the four ML applications for the Project) where disturbance activities associated with the Project will occur (Disturbance area on Project MLs shown in Map 1, Appendix A). This includes all open-cut operations, haul roads, spoil (overburden) dumps, water management infrastructure, and associated mine-related works required for the Project.*

Additional disturbance area: *The Additional disturbance area includes areas totalling 2.5 hectares (ha) on IDM ML 700046 that require an amendment to the IDM State approvals (EA and PRCP schedule) for connecting linear*



infrastructure with the Project, in areas not currently authorised for disturbance. The disturbance area to be assessed for the EPBC Referral for the Project includes the 'Disturbance area on Project MLs' + the 'Additional disturbance area'.

1.3 PURPOSE

Targeted field ecological assessments have been completed within the Survey area of the Project to date, which verified the presence of MNES listed threatened species and Threatened Ecological Communities (TECs). The Project has the potential to impact these MNES species and TECs.

Stanmore is required, under the EPBC Act, to provide appropriate management of MNES within Project area. According to the Terms of Reference (ToR; issued December 2025) for the EIS, avoidance, minimisation, and mitigation measures are the primary methods of eliminating and reducing significant impacts on MNES. Where possible and practicable, it is best to avoid impacts. However, if impacts cannot be avoided, then they should be minimised or mitigated as much as possible.

This MNES-SSMP provides the management objectives and measures that are to be implemented within the Project area for species management to minimise impacts to MNES significant species and communities.

1.4 OBJECTIVES

In accordance with the ToR and the *EIS Guideline – Terrestrial Ecology* (DESI, 2024), the MNES-SSMP includes:

- Measurable objectives for assessing the effectiveness of avoidance and mitigation measures.
- Monitoring actions and an implementation schedule.
- Corrective actions to be implemented where monitoring indicates that management measures are not effective or have failed.

The objectives of the MNES-SSMP include:

- Managing impacts to MNES significant species and communities and their habitats.
- Managing construction and operational activities to reduce the risk of injury, mortality, or habitat degradation.
- Ensuring compliance with relevant legislative requirements and approval conditions.

The management measures proposed in the MNES-SSMP are directed towards avoiding and limiting impacts to MNES significant species and communities and their habitat. Specifically, these measures address the management of clearing of listed threatened species habitat, prevention of habitat loss, degradation and decline in habitat values; minimisation spread of weeds; reduce habitat degradation caused by pest animals; minimise the impacts of dust deposition, noise and vibration on MNES habitat; reduce the risk of habitat degradation from bushfire; minimise habitat alteration associated with changes in hydrology and water quality; and reduce the potential for mortality or injury to MNES species.

The MNES-SSMP includes, but is not limited to:

- Provision of species-specific measures to protect and mitigate impacts on MNES significant species and communities during construction and operations, consistent with the purpose of the EPBC Act.
- Implementation of protocols for pre-clearance surveys, Fauna Spotter Catcher/relocation, habitat feature salvage (e.g. hollows, logs), and monitoring to support population persistence and resilience.
- Definition of trigger thresholds and adaptive management responses.
- Maintenance of detailed records of fauna interactions, relocations, injuries, mortalities, and monitoring outcomes to meet regulatory reporting requirements and inform continual improvement of management measures.
- Refinement of disturbance boundaries and establishment of clearly marked exclusion zones around sensitive habitats prior to commencement of works.
- Timing of vegetation clearing to avoid key breeding, nesting, or flowering periods where practicable.
- Progressive vegetation clearing, with Fauna Spotter Catcher (FSC) presence during clearing activities.
- Implementation of speed limits, lighting controls, and noise management measures to minimise disturbance to fauna.
- Management of artificial water points, trenches, and excavations to prevent fauna entrapment.
- Delivery of workforce awareness and training programs through site inductions and toolbox talks to ensure compliance with species management requirements.



The monitoring and review components of the MNES-SSMP include:

- Monitoring of known and potential habitat areas adjacent to disturbance zones.
- Recording and reporting of fauna encounters, injuries, and mortalities.
- Post-clearing inspections to verify the effectiveness of mitigation measures.
- Review and update of the Plan where monitoring identifies exceedances, new species records, or changes to regulatory requirements.

1.5 RELATIONSHIP TO OTHER MANAGEMENT AND MONITORING PLANS

Environmental management and monitoring plans prepared for the Project aim to address Commonwealth and State legislation requirements and ensure the effective implementation of mitigation measures during the construction, operational, and rehabilitation phases. While providing framework for compliance with approval conditions and continuous environmental performance improvement through the operational life of mine (LoM), interaction among management and monitoring plans may occur during the construction and operation of the Project.

The following plans have been developed to guide environmental management for the Project, particularly as it relates to impacts to terrestrial ecology:

- Weed and Pest Management Plan
- Species Management Program (High-risk of Impacts)
- Groundwater Dependent Ecosystem (GDE) Monitoring and Management Plan, complemented by the GDE Habitat Quality Monitoring Plan.
- Offset Area Management Plan (OAMP) and Offset Delivery Plan (ODP)
- Bushfire Management Plan
- Erosion and Sediment Control Plan (ESCP)
- PRCP
- Permit to Disturb

Prior to the commencement of construction works, the Permit to Disturb process will be used to authorise clearing, and the management commitments within this MNES-SSMP will be implemented through the Permit to Disturb process.

1.6 ENVIRONMENTAL MANAGEMENT ROLES AND RESPONSABILITIES

The MNES-SSMP once approved by the Commonwealth, will be implemented as part of construction, operational and decommissioning activities for the Project's including where vegetation clearing, or other activities will result in the disturbance of protected and threatened flora and fauna habitat, vegetation and soil.

All employees, contractors or other agents will be required to operate in accordance with the MNES-SSMP, once approved, as part of their activity. The Project's Environmental Officer (EO) will be required to apply the MNES-SSMP to the activity areas and implement, where necessary, corrective actions.



2. REGULATORY FRAMEWORK

2.1 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 – COMMONWEALTH

The EPBC Act is the principal Commonwealth environmental legislation and is administered by the Department of Climate Change, Energy, the Environment and Water (DCCEEW). The EPBC Act provides a framework for the protection of MNES, including threatened flora and fauna species, TECs, migratory species and other protected matters. The Act also establishes categories of threat for listed flora and fauna, identifies key threatening processes affecting their survival, and provides for the development of recovery plans for threatened species.

Approval under the EPBC Act is required for any action, such as a development, that is likely to have a significant impact on MNES. Where a project is likely to result in a significant residual impact, the proponent must refer the action to DCCEEW for a decision on whether the proposed activity constitutes a controlled action and, if so, the level of assessment required. For controlled actions, assessment may occur through one of five pathways: assessment on referral information, preliminary documentation, EIS, Public Environment Report (PER), or public inquiry.

The Project was determined by DCCEEW to be a controlled action on 6 June 2025 and was to be assessed through the Accredited Assessment under the EP Act.

2.2 ENVIRONMENTAL OFFSETS POLICY – COMMONWEALTH

Under the EPBC Act *Environmental Offsets Policy 2012* (Cth), environmental offsets are measures undertaken to compensate for significant residual impacts on MNES. Offsets are considered a measure of last resort and are only applied after all reasonable avoidance, and mitigation measures have been implemented and significant residual impacts remain.

The EPBC Act *Environmental Offsets Policy 2012* (Cth), came into effect in October 2012 and provides guidance on the role of offsets in environmental impact assessment, including the matters considered by DCCEEW in assessing the suitability of a proposed offset package (DSEWPaC, 2012a).



3. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

3.1 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE PRESENCE

Targeted field ecological surveys have been completed within the Survey area of the Project to date (Trend Environmental, 2026a), which verified the presence of MNES listed threatened species and Threatened Ecological Communities (TECs).

These surveys were undertaken, to:

- Determine the presence/absence of listed flora and fauna species within the Survey area;
- Assess the vegetation characteristics and the presence of TECs within the Survey area;
- Describe the likely adverse impacts on MNES within the Project area;
- Describe measures that would be implemented to avoid and mitigate impacts on those MNES; and
- Assess the baseline habitat quality of the impact area.

The MNES significant species and communities present within the Disturbance area, and for which are likely to be significantly impacted and this MNES-SSMP applies is provided in Table 1. MNES significant species and communities recorded within the Survey area where there are no plausible impact pathways, or where the nature and scale of the proposed activities are unlikely to result in a significant impact have been excluded from this MNES-SSMP.

This section provides a summary of the ecological assessments undertaken to determine the MNES significant species and communities that occur within the Project area, the summarised results as they relate to MNES significant species and communities and the potential impacts to those MNES. Detailed information including habitat quality within the Project area for each of the MNES is outlined in the Terrestrial Ecology Assessment Report (Trend Environmental, 2026a).

MNES

Table 1
MNES significant species and communities identified as occurring within the Disturbance area

Common Name	Species Name	Status ¹
THREATENED ECOLOGICAL COMMUNITIES		
Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) TEC		EN
Poplar Box Grassy Woodland on Alluvial Plains TEC		EN
THREATENED SPECIES		
Squatter Pigeon	<i>Geophaps scripta scripta</i>	VU
Greater Glider	<i>Petauroides volans</i>	EN
Koala	<i>Phascolarctos cinereus</i>	EN
Ornamental Snake	<i>Denisonia maculata</i>	VU

¹ Commonwealth (Cth) EPBC Act Status: EX = Extinct, EW = Extinct in Wild, CE = Critically Endangered, EN = Endangered, VU = Vulnerable, M = Marine, Mi = Migratory, - not protected under the Act.

² within the Disturbance area.

3.2 DESCRIPTION OF THE SURVEY AREA

The Survey area is situated within the Brigalow Belt bioregion, which spans approximately 216,000 km² across central Queensland and northern New South Wales (NSW), extending from Townsville in the north, to Narrabri in the south (Sattler & Williams, 1999). The Brigalow Belt bioregion is divided under the Interim Biogeographic Regionalisation for Australia (IBRA) into two IBRA regions: the Brigalow Belt North and Brigalow Belt South. The Project area occurs within the Brigalow Belt North bioregion, which spans an area of 135,500 km² and is home to a diverse range of flora and fauna (Young, et al., 1999).



The Survey area is also located within the Fitzroy Basin, one of Queensland's largest and most economically significant drainage basins. More specifically, it lies entirely within the Isaac River drainage sub-basin, which forms part of the broader Fitzroy Natural Resource Management (NRM) region. The Isaac River sub-basin spans approximately 22,364 km², encompassing the regional centres of Moranbah, Dysart, and Nebo (DERM, 2011). Within this sub-basin, the Project is situated across the Isaac River and Cherwell Creek catchments, with a dense network of minor tributaries and ephemeral drainage lines intersecting the Project area.

The Survey area has a long history of cattle grazing, predominantly associated with Winchester Downs Station. As a result, vegetation communities have been subject to historical clearing, fragmentation and grazing-related modification, with varying levels of regrowth and remnant persistence.

Vegetation within the Project area is representative of the broader Bowen Basin landscape, which has been extensively modified by pastoral land use. The vegetation mosaic comprises non-remnant pasture, remnant vegetation, dieback-affected remnant vegetation and regrowth at various stages of structural and floristic recovery, reflecting the long-term influence of grazing and land management practices.

Riparian vegetation occurs along Isaac River, Cherwell Creek and Conrock Gully, providing important linear habitat connectivity for fauna species across the Project area. The riparian zones of the Isaac River and Cherwell Creek are dominated by *Eucalyptus camaldulensis* (River Red Gum), *Eucalyptus tereticornis* (Queensland Blue Gum), *Corymbia clarksoniana* (Clarkson's Bloodwood) and *Corymbia tessellaris* (Moreton Bay Ash). Patches of ephemeral wetland habitat also occurs within the Project area, typically dominated by *Eucalyptus camaldulensis*, *Eucalyptus tereticornis* and/or *Eucalyptus coolabah*. In contrast, the riparian habitat of Conrock Gully is generally characterised by a mix of *Eucalyptus coolabah* (Coolibah), *Acacia harpophylla* (Brigalow) and *Eucalyptus populnea* (Poplar Box).

Regulated vegetation and Regional Ecosystems (REs) under the Vegetation Management Act 1999 (VM Act) were verified within the Survey area during field ecological surveys, with field-verified REs certified by the Queensland Herbarium through the Methodology for Assessing Regrowth (MAR). Field verification indicated that the total Survey area of 5,227.55 ha comprises 2,578.06 ha of Category B (remnant) vegetation and 2,649.49 ha of Category X (non-remnant) vegetation, equating to approximately 49.32 % remnant and 50.68 % non-remnant vegetation.

The dominant Broad Vegetation Groups (BVGs) identified within the Survey area include:

- BVG 7 – Semi-evergreen to deciduous microphyll vine thicket.
- BVG 9 – Moist to dry eucalypt open forests to woodlands, usually on coastal lowlands and ranges.
- BVG 11 – Moist to dry eucalypt open forests to woodlands, mainly on basalt areas.
- BVG 16 – *Eucalyptus*-dominated open forests and woodlands along drainage lines and alluvial plains.
- BVG 17 – *Eucalyptus populnea*, *Eucalyptus melanophloia* (Silver-leaved Ironbark), or *Eucalyptus whitei* (White's Ironbark) dry woodlands to open woodlands on sandplains and depositional plains.
- BVG 18 – Dry eucalypt woodlands to open woodlands primarily on sandplains or depositional plains.
- BVG 25 – *Acacia harpophylla*, sometimes with *Casuarina cristata* open forests to woodlands on heavy clay soils.
- BVG 30 – *Astrebla* spp. and *Dichanthium* spp. tussock grasslands.
- BVG 34 – Wetlands associated with permanent and ephemeral lakes, swamps, claypans; includes fringing woodland and shrubland vegetation

3.3 SURVEY METHODOLOGY AND SURVEY EFFORT

The ecological assessment to support the Project's EIS incorporated a desktop review, a Likelihood of Occurrence assessment and targeted seasonal field surveys.

The desktop review and Likelihood of Occurrence assessment identified TECs, and threatened and migratory species recognised as MNES under the EPBC Act as potentially occurring. Targeted survey efforts were undertaken during wet and dry seasons to verify the presence or habitat suitability of these MNES within the Survey area. Surveys were designed to align with the relevant Commonwealth and State survey guidelines, ensuring appropriate survey design, timing, and effort to maximise detectability and data reliability. In addition to targeted surveys, a range of vegetation and habitat assessments were also conducted. The survey methods and effort applied are detailed in Table 2, with corresponding survey locations shown in the Map Series 2 (Flora survey effort) and Map Series 3 (Fauna survey effort) in Appendix A.



Table 2
Survey effort

				Survey Effort		
Survey Type		Target Value	Justification and method	Dry Season 2024	Wet Season 2024	TOTAL
Vegetation Assessments		All remnant and regrowth areas	Vegetation Assessments were undertaken using a combination of Tertiary and Quaternary assessments in accordance with the <i>Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland v7.0</i> (Neldner et al., 2023). The Tertiary and Quaternary assessments identified the structural composition and the dominant and conspicuous species within a vegetated patch. Verified REs and their corresponding Broad Vegetation Group (BVG) were used to identify and group vegetation communities with similar structural and floristic characteristics within the Survey area.		161	
TEC Verification		Any suspected TEC areas	Suspected TEC patches were evaluated against the key diagnostic criteria and condition thresholds within the relevant DCCEEW Conservation or Listing Advice. These data were then vetted using GIS techniques (e.g., Statewide Landcover and Trees Study (SLATS) Foliage Projection Cover data) to include/exclude areas based on condition and area extent (if relevant).	34, including five for Native Grassland TEC, 18 for Brigalow TEC, and 11 for Poplar Box TEC.		
Habitat Suitability Assessments		All remnant and regrowth areas	Habitat Suitability Assessments were undertaken to assess the potential for vegetation communities to support threatened, migratory and SLC species that were identified as occurring or potentially occurring through the Likelihood of Occurrence assessment. Habitat definitions for the target species used definitions available in the <i>EPBC Act</i> Guidelines or other relevant, most recent, statutory documents (e.g., referral guidelines, approved listing advice(s), approved conservation advice(s), recovery plan(s), threat abatement plan(s) or comparable policy guidelines, and information contained in relevant Commonwealth databases such as the SPRAT database). The habitat definitions have been described per target species in Table 3.		34	
Habitat Quality Assessments		All AUs	Habitat Quality Assessments to assess habitat condition were undertaken in accordance with the State's <i>Guide to determining terrestrial habitat quality v1.3 (DES, 2020a)</i> , and the Commonwealth's <i>How to use the Offsets Assessment Guide</i> (Department of Environment, n.d.). These frameworks are based on the BioCondition Manual (Eyre et al., 2015a).		33	
Weed Detection Sites		N/A	Where high abundances of weed species were detected, particularly those recognised under Commonwealth or State legislation, a Weed Detection assessment was undertaken to record the species and extent of disturbance.		17	
Targeted Methods	Cage Traps	Medium-sized Mammals	Transect containing four traps per trap site open for a minimum of four nights. Each trap was baited with a mixture of peanut butter, oats and honey; or bacon/chicken necks, coated in fish oil. The cage traps were placed in shaded areas with hessian cloth used to cover the exterior to provide shelter and thermal protection during hot periods. Traps were opened in the afternoon of each day and inspected in the early morning. Note, all trap sets ups were in accordance with Trend Environmental's ethics approval.	Four transects, 64 trap nights	Four transects, 64 trap nights	Eight transects 128 trap nights



Survey Type	Target Value	Justification and method	Survey Effort		TOTAL
			Dry Season 2024	Wet Season 2024	
Elliot Traps	Small sized mammals	20 traps at 5 metre (m) intervals along a 100 m transect; open for a minimum four nights in accordance with the <i>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland</i> (Eyre, Ferguson, et al., 2022). The traps were baited with peanut butter balls, with some coated with fish oil. Traps were placed within shaded areas with suitable microhabitat features within the immediate vicinity. Traps were opened in the afternoon of each day and inspected early in the morning.	Six transects, 480 trap nights	Six transects, 480 trap nights	Twelve transect, 960 trap nights
Pitfall and Funnel Traps	Reptiles and amphibians	Four buckets at 7.5 m intervals on a T-design using 45 m of silt fence; with six funnel traps 3 m from the distal ends of the T-design. Traps were open for a minimum of four nights, in accordance with the <i>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland</i> (Eyre, Ferguson, et al., 2022). Leaf litter, small sticks and a saturated sponge for moisture were placed in each bucket. White vinegar was used around the outside of the pitfalls where needed as an ant deterrent. Pitfall and funnel traps were inspected early in the morning, with closure of traps during the day.	Four trap sites, 64 trap nights for pitfalls and 96 trap nights for funnels	Four trap sites, 64 trap nights for pitfalls and 96 trap nights for funnels	Eight trap sites, 128 trap nights for pitfalls, and 192 trap nights for funnels
Harp Trap	Bats	Harp traps were set up in restricted flyways in well vegetated areas, such as along creek lines and tracks, placed where fringing vegetation abutted the trap edges on both sides and above. A minimum of two trap nights per sampling site was undertaken. Harp traps were left set in the late afternoon, inspected at dawn, and closed during the day.	Four trap sites, 10 trap nights	Nil	Four trap sites, 10 trap nights
Infrared Camera Traps	All fauna	Infrared camera traps were deployed to capture diurnal and nocturnal fauna. Traps were routinely baited daily. Each trap was baited with cat food; or chicken necks coated in fish oil. Camera traps were randomly placed to gain representative cover within the Survey area. The were place where microhabitat features were suitable e.g., near dams and wetlands, within creek lines, and near dense vegetation stands. A minimum of one trap night per location was undertaken.	3 cameras, 13 trap sites, 30 trap nights	10 cameras, 27 trap sites, 200 trap nights, including 100 surrounding the HES wetland targeting Squatter Pigeon (southern; <i>Geophaps scripta scripta</i> ; herein referred to as Squatter Pigeon) and wetland birds	230 trap nights.
Acoustic Device	Bats	Acoustic bat detection devices were used to identify the presence of threatened bat species. Devices were deployed where suitable habitat features and flyways occurred. A minimum of two trap nights per location was undertaken.	One device, four trap sites, 10 trap nights	Two devices, four trap sites, 20 trap nights	Eight trap sites, 30 trap nights



Survey Type	Target Value	Justification and method	Survey Effort		
			Dry Season 2024	Wet Season 2024	TOTAL
Scat and sign searches	All fauna	Searches included looking for signs of animal activity, such as tracks, scats, scratches, nests, and burrows. Searches were usually conducted during vegetation assessments, fauna habitat assessments and active searches, as well as sporadic, opportunistic searches within suitable habitat. As a result, these search locations have not been shown on Map 3 (Fauna Survey Effort, Appendix A).	~25	~25	~50
Diurnal Active searches	Reptiles and amphibians	Non-destructive diurnal active searches of all microhabitat features within a 50 x 50 m area for 15-minute periods to detect presence of fauna. Where possible, two personnel conducted active searches adjacent to each other, covering a 100 x 100 m area, in accordance with the <i>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland</i> (Eyre, Ferguson, et al., 2022). Active searches were undertaken at all times of the day, including in the morning when temperatures rise and reptiles are basking and starting to become active. Searches focused on key habitat features such as dense leaf litter and fallen woody debris, soil cracks, rocky areas and crevices, hollow logs and burrows.	6	35	41
Spotlight Transects	Nocturnal fauna	Spotlighting transects were performed by two personnel per spotlighting event, approximately 50 m apart in suitable habitat areas of targeted threatened nocturnal species particularly the Koala, Greater Glider and Ornamental Snake. Spotlighting transects were undertaken in accordance with the <i>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland</i> (Eyre, Ferguson, et al., 2022). Given the large size of the Survey area, spotlighting transects involved a combination of walking and driven transects, covering anywhere from 2 km to 10 km per spotlighting night. Binoculars and spotlights with red filters were used during the spotlight transects.	Six person hours	Twelve person hours	18 person hours
Bird surveys	Avian species	Standardised bird surveys were undertaken in accordance with the Birdlife Australia methodology, where one personnel undertook a 2 ha/20-minute standardised survey. The observer recorded the number and species of birds observed or heard aurally.	Nine bird surveys, Three person hours	21 bird surveys, Seven person hours	30 bird surveys, Ten person hours
Flushing surveys	Squatter Pigeon (southern)	Two ecologists walked the Survey area conducting flushing surveys for the Squatter Pigeon, in accordance with <i>EPBC Act Survey guidelines for Australia's threatened birds: Guidelines for detecting birds listed as threatened under the EPBC Act, 2010</i> (DEWHA, 2010). Note, flushing surveys are not represented on Map 3 (Fauna Survey Effort) in Appendix A as these were incidentally completed when completing all other survey types.	~125 person hours, over ten days, including ~60 hours during reconnaissance survey	~80 person hours, over ten days	~265 person hours, over 25 days
Land-based area searches	Australian Painted Snipe	Land-based area searches surrounding wetland habitat were undertaken to target the Australian Painted Snipe. Note, land-based area searches are not represented on Map 3 (Fauna Survey Effort) in Appendix A as these were incidentally completed when completing other survey types surrounding wetland habitats.	Five person hours, over ten days	Seven person hours, over ten days	Twelve person hours, over 20 days



Survey Type	Target Value	Justification and method	Survey Effort		TOTAL
			Dry Season 2024	Wet Season 2024	
Animal Breeding Place Survey	Animal Breeding Places	Animal breeding places were recorded in accordance with the <i>Information Sheet Species Management Program Requirements for tampering with a protected animal breeding place in Queensland</i> (DES, 2020b)	~50 person hours	~50 person hours	~100 person hours
Incidental Observations	All flora and fauna	All fauna observed incidentally within the Survey area were recorded.	N/A		



3.4 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE SIGNIFICANT SPECIES RESULTS

Table 3 summarises the MNES significant species and communities identified as relevant MNES within the Survey area, including their conservation status under Queensland and Commonwealth legislation, likelihood of occurrence, relevant DCCEW habitat definitions, and whether they were detected during field surveys. It also outlines the extent to which each matter occurs within the Survey area and, where relevant, the nature and scale of the Project's impacts, including direct clearing of threatened ecological communities and confirmed records of threatened fauna within mapped habitat.

The results indicate that the Survey area supports a number of MNES significant species and communities, with two TECs and four threatened fauna species identified as likely to be significantly impacted by the Project. Brigalow TEC and Poplar Box TEC were both verified during field surveys, with approximately 52.72 ha of Brigalow TEC and 15.45 ha of Poplar Box TEC expected to be directly impacted by clearing.

MNES significant species and communities recorded within the Survey area have been excluded from this MNES-SSMP where there are no plausible impact pathways, or where the nature and scale of the proposed activities are unlikely to result in a significant impact.

For these species and communities, exclusion is justified on the basis of one or more of the following: absence of suitable habitat within the Disturbance area, no direct impact pathway associated with vegetation clearing, species unlikely to occur at the time of clearing (e.g., migratory species), absence of indirect impact pathways such as hydrological change, adequate separation distances or buffers from the proposed disturbance, and the implementation of avoidance and mitigation measures outlined in the Terrestrial Ecology Assessment; Trend Environmental, 2026a).

The Squatter Pigeon, Koala and Greater Glider were all recorded during field surveys, confirming their presence within the Survey area, while the Ornamental Snake was not detected by Trend Environmental but has been previously recorded within the Survey area and therefore remains relevant to the assessment. Overall, the results confirm that the Survey area contains confirmed habitat and/or records for several listed MNES, and that the Project will result in direct impacts to verified TECs and habitat for threatened fauna.



Table 3
Descriptions of
habitat and
detected
presence for
each species
with identified
impacts

Family	Scientific Name	Common Name	Status ¹		Likelihood of Occurrence ²	Description	Key Defining Terms (<i>Key Habitat Terms used by DCCEEW</i>)	Defined Species Habitat Definitions	Detected Presence	Impacts	
			Qld	Cth							
THREATENED ECOLOGICAL COMMUNITIES											
Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) TEC			-	EN	Known to occur	Brigalow TEC is characterised by forests dominated by <i>Acacia harpophylla</i> (Brigalow), often with a sparse to moderate shrub layer. It typically occurs on fertile clay soils in inland Queensland and northern New South Wales (NSW) and provides important habitat for a range of native flora and fauna.	Areas critical to the survival of the ecological community are all patches that meet the key diagnostic criteria and conditions thresholds in the Approved Conservation advice for the TEC (TSSC, 2013)	As per the key diagnostic criteria and condition thresholds in the Approved Conservation Advice for the TEC (TSSC, 2013).	<i>Acacia harpophylla</i> communities in the Survey area were assessed against the key diagnostic characteristics and condition thresholds in the <i>Approved Conservation Advice for the Brigalow (Acacia harpophylla dominant and co-dominant) TEC</i> (TSSC, 2013) to determine whether they qualified as the TEC. Within the Survey area, RE 11.3.1, 11.4.8, and 11.4.9 were identified as potentially corresponding to the Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) TEC (herein referred to as the Brigalow TEC). Fragmented patches of the Brigalow TEC were verified within the Survey area during field surveys. Map 4 (Field-verified TECs) in Appendix A presents the patches of Brigalow that met the key diagnostic criteria and condition thresholds for the TEC within the Survey area. All patches of Brigalow TEC were identified as habitat critical to the survival of the ecological community.	A total of 149.47 ha of Brigalow TEC was verified within the Survey area. Approximately 52.72 ha of Brigalow TEC will be cleared as part of the Project, representing 41.40 % of the TEC within the Survey area.	
Poplar Box Grassy Woodland on Alluvial Plains TEC			-	EN	Known to occur	Poplar Box TEC is characterised by woodlands dominated by <i>Eucalyptus populnea</i> (Poplar Box) occurring on alluvial plains, generally on fine-textured soils. It typically supports a grassy understorey with scattered shrubs.	Areas critical to the survival of the ecological community are the best quality, most intact patches of the ecological community (Class A – Highest condition; DoEE, 2019)	As per the key diagnostic criteria and condition thresholds in the Conservation Advice for the TEC (DoEE, 2019)	<i>Eucalyptus populnea</i> communities in the Survey area were assessed against the key diagnostic characteristics and condition thresholds in the <i>Conservation Advice for the Poplar Box Grassy Woodland on Alluvial Plains TEC</i> (DoEE, 2019) to determine whether they qualified as the Poplar Box Grassy Woodland on Alluvial Plains TEC (herein referred to as the Poplar Box TEC). Two patches of Poplar Box TEC (both Category C) were verified within the Survey area, occupying 39.42 ha. Map 4 (Field-verified TECs) in Appendix A presents the patches of Poplar Box that met the key diagnostic criteria and condition thresholds for the TEC within the Survey area.	One patch of this TEC, is expected to be partially cleared as a result of the Project (Patch 26 in Map 4, Appendix A), resulting in direct impacts to 15.45 ha of the TEC. The remaining area of partially cleared TEC within Patch 26 will retain existing connectivity.	
THREATENED BIRDS											
Columbidae	<i>Geophaps scripta scripta</i>	Squatter (southern)	Pigeon	VU	VU	Known to occur	The Squatter Pigeon is a ground-dwelling, seed-eating bird of open eucalypt woodlands and forest edges with a sparse shrub layer, patchy grass cover and access to permanent water. It relies on structurally diverse ground-layer habitat for foraging, shelter and nesting, requires a water source for drinking daily, and is sensitive to habitat degradation from clearing, overgrazing, inappropriate fire regimes and predation.	No critical habitat for the survival of the species has been defined. And no important habitat has been defined. An important population is defined as the southern boundary of its known distribution (southern Queensland). Therefore, all of the relatively small, isolated and sparsely distributed sub-populations occurring south of the Carnarvon Ranges in Central Queensland (the Project is north of the Carnarvon Ranges) are considered to be important sub-populations of the subspecies (Squatter Pigeon Workshop, 2011). This includes, but is not limited to:	Habitat for the Squatter Pigeon was defined as breeding, foraging and dispersal as per the following definitions (DCCEEW, 2025a):	The Squatter Pigeon was recorded multiple times within the Survey area (records shown in Map 5 [Squatter Pigeon habitat and detected presence], Appendix A). During the dry and wet season surveys, 37 observations were recorded across the Survey area, and adjacent areas, primarily associated with farm dams, riparian areas, and water troughs. Historically, there are records of the Species within the Survey area, recorded by EcoSM (2018; 2020) and an ALA record from 2002, also shown in Map 5, Appendix A. A total of 2,049.55 ha of breeding habitat, 409.25 ha of foraging habitat and 106.15 ha of dispersal habitat for the Squatter Pigeon was verified within the Survey area.	Approximately 308.48 ha of breeding habitat, 14.58 ha of foraging habitat, and 11.09 ha of dispersal habitat for the Squatter Pigeon will be cleared as part of the Project. Habitat critical to the survival of the species occurs within these areas, particularly along riparian corridors and around semi-permanent waterbodies where grassy woodland habitats support essential breeding and foraging resources (Map 5, Appendix).
											



Family	Scientific Name	Common Name	Status ¹		Likelihood of Occurrence ²	Description	Key Defining Terms (<i>Key Habitat Terms used by DCCEEW</i>)	Defined Species Habitat Definitions	Detected Presence	Impacts
			Qld	Cth						
THREATENED MAMMALS										
Phascolarctidae	<i>Phascolarctos cinereus</i>	Koala	EN	EN	Known to occur	The Koala is an arboreal marsupial that inhabits eucalypt forests and woodlands containing suitable food trees, shelter trees and connected habitat for movement. It is highly dependent on the availability of preferred browse species and is vulnerable to habitat loss, fragmentation, vehicle strike, dog attack, disease and inappropriate fire regimes.	Habitat critical for survival is described as areas that the species relies on to avoid, or halt decline and promote recovery of the species. The Conservation Advice for the Koala states that it is not practical to identify by description or provide spatial information on habitat critical to the survival of the Koala, due to insufficient knowledge and data. In absence of this, habitat critical for survival of the Koala is expected to include habitat occupied and habitat currently unoccupied, areas necessary for population processes and maintenance of genetic diversity and evolutionary potential, and areas required to accommodate future population increase recolonisation, reintroduction, or as climate refugia (DAWE, 2022a). Important habitat not defined for the species. Important population defined as those that are valued for cultural, social and economic reasons. In Queensland, priority areas are identified as SEQ (DAWE, 2022a).	Koala habitat can be broadly defined based on the presence of locally important food trees and ancillary habitat trees as defined in the <i>Review of Koala Habitat Assessment Criteria and Methodology</i> (Youngentob et al., 2021). Koala habitat is further defined however into breeding, foraging and dispersal habitat: • Breeding habitat Contiguous remnant <i>Eucalyptus</i> open forest to woodlands on alluvial and/or cracked rock groundwater where palatable food tree species occur frequently (and are usually dominant). Specifically includes stream fringing open forest or woodland on alluvial terraces where <i>E. tereticornis</i> and <i>E. camaldulensis</i> are dominant. Other important food species on the alluvial terraces can include <i>E. coolibah</i>, <i>E. crebra</i>, <i>E. melanophloia</i> and <i>E. populnea</i>. • Foraging habitat Habitat that provides food resources or aids to movement for the species including remnant and regrowth Eucalyptus open forest to woodlands with more variable water sources (often seasonal) and that have connectivity to breeding habitat areas. • Dispersal habitat All other fragmented and sparsely distributed woodlands and open woodlands, shrub lands and forests, with some food trees.	The Koala was recorded during field surveys within the ephemeral wetland in the south-eastern corner of the Survey area (shown in Map 6 [Koala habitat and detected presence] in Appendix A). The species has also previously been recorded within the Survey by EcoSM in 2019, adjacent to the Isaac River in the northern portion of the Survey area (EcoSM, 2020; records shown in Map 16, Appendix A). A total of 742.96 ha of breeding habitat, and 1,479.54 ha of foraging habitat for the Koala was verified within the Survey area, which constitutes habitat that is critical to the survival of the species (Map 6, Appendix A). Large tracts of high-quality breeding habitat along the Isaac River and Cherwell Creek for the Koala has been avoided by design of the Disturbance area.	Approximately 66.81 ha of breeding habitat and 251.22 ha of foraging habitat for the Koala will be cleared as a result of the Project, comprising a total of 318.03 ha of habitat identified as critical to the species' survival.
										
Pseudocheiridae	<i>Petauroides volans</i>	Greater Glider (southern/central)	EN	EN	Known to occur	The Greater Glider is an arboreal, nocturnal marsupial that inhabits eucalypt forests and woodlands with suitable canopy connectivity, abundant food trees and large hollow-bearing trees for shelter and denning. It is highly dependent on intact woodland and forest habitat and is particularly vulnerable to vegetation clearing, habitat fragmentation, hollow loss, and altered fire regimes.	Habitat critical for survival includes: • Large tracts of contiguous eucalypt forest with suitable tree hollows • Smaller fragmented patches if connected to larger habitat patches • Cool microclimate forests areas (gullies, high elevation and slopes) • Short-term post fire refuges All populations are important (TSSC, 2016). Important habitat not defined for the species.	Greater Glider habitat was defined as 'denning' or 'foraging' habitat, in accordance with the <i>Guide to Greater Glider Habitat in Queensland</i> (Eyre et al., 2022). Below describes the habitat that is described under each definition: • Denning habitat Remnant, connected eucalypt woodlands with >2 hollow bearing trees/ha, hollows medium-large in size (>10cm), on fertile, wetter soils of riparian zones, used for shelter, diurnal refuge and breeding. • Foraging habitat Remnant eucalypt woodlands connected to areas of denning habitat that does not contain >2 hollow bearing trees/ha, medium-large in size (>10 cm). Generally, within 120 m of breeding / denning habitat, reflecting the home range of the species.	The Greater Glider was recorded extensively throughout the Survey area, with Trend Environmental field surveys recording the species 31 times in 2024 and 2025 (records shown in Map 7 {Greater Glider habitat and detected presence] in Appendix A). The species was frequently detected in mature Eucalypt forest supporting a high density of hollow-bearing trees, consistent with its known reliance on structurally complex, relatively undisturbed vegetation. The highest abundances were observed within riparian habitats associated with the Isaac River and Cherwell Creek, where continuous canopy cover and large-diameter eucalypts provide optimal foraging and denning resources. This species has also previously been recorded within the Survey area by DPM Envirosciences, with eight records in 2018 (DPM Envirosciences, 2018a), and by EcoSM with 47 records in 2020 (EcoSM, 2020). These records were also concentrated within the riparian habitat for the Isaac River and Cherwell Creek (records also shown in Map 7, Appendix A). A total of 859.85 ha of breeding habitat, and 1,362.65 ha of foraging habitat for the Greater Glider was verified within the Survey area, which constitutes habitat that is critical to the survival of the species (Map 7, Appendix A). Large tracts of high-quality breeding habitat along the Isaac River and Cherwell Creek for the Greater Glider has been avoided by design of the Disturbance area.	Approximately 87.26 ha of denning habitat and 230.76 ha of foraging habitat for the Greater Glider will be cleared as a result of the Project, comprising a total of 318.02 ha of habitat identified as critical to the species' survival.
										



Family	Scientific Name	Common Name	Status ¹		Likelihood of Occurrence ²	Description	Key Defining Terms (<i>Key Habitat Terms used by DCCEEW</i>)	Defined Species Habitat Definitions	Detected Presence	Impacts
			Qld	Cth						
THREATENED REPTILES										
Elapidae	<i>Denisonia maculata</i>	Ornamental Snake	VU	VU	Known to occur	The Ornamental Snake is a small, nocturnal, mildly venomous snake endemic to central Queensland that is typically associated with seasonally flooded alluvial plains and deeply cracking clay soils, where it shelters in soil cracks and forages primarily on frogs. It is highly dependent on suitable ground-layer and wetland-associated habitat and is vulnerable to habitat loss and degradation from vegetation clearing, hydrological alteration, grazing pressure and other disturbance.	No critical habitat for the survival of the species has been defined. Important habitat is identified as gilgai depressions and mounds (DCCEEW, 2023). Habitat connectivity between gulgais and other suitable habitats is also important. As the Ornamental Snake is difficult to detect and population information is limited, the Department regards important habitat as a surrogate for an important population. Suitable habitat for this species is considered important if it is: • Habitat where the species has been identified during a survey; • Near the limit of the species' known range; • Large patches of contiguous, suitable habitat and viable landscape corridors (necessary for the purposes of breeding, dispersal or maintaining the genetic diversity of the species over successive generations); or • A habitat type where the species is identified during a survey but was previously thought not to support the species (DCCEEW, 2023).	Breeding habitat - within, or close to, habitat that is favoured by its prey - frogs. The species is known to prefer woodlands and open forests associated with moist areas, particularly gilgai (melon-hole) mounds and depressions in REs, Land Zone 4, but also lake margins and wetlands, specifically RE 11.4.9, 11.4.8, 11.5.3, 11.4.11, 11.3.2 and 11.3.1 (Brigalow Belt Reptiles Workshop, 2010; Wilson & D.G. Knowles, 1988;) DCCEEW, 2025b). Gilgai formations are found where deep-cracking alluvial soils with high clay contents occur (Brigalow Belt Reptiles Workshop, 2010). Foraging habitat - REs that have been historically recorded to contain populations that are adjacent to preferred habitat and contain the following key habitat features for ornamental snake are present or infrequent – soil cracks, wetlands (especially with frogs present), dense tussock grasses, and vegetation in and around water (DCCEEW, 2025b). Dispersal habitat - Areas currently or previously dominated by brigalow or coolibah communities where gilgais or soil cracks are infrequent or are shallow or non-remnant areas where threats are high (high abundance of weed incursion and cattle compacting soils), but the species still have potential to occur, especially in times where water is present and prey abundance (frogs) is high.	No individuals of the Ornamental Snake were recorded within the Survey area during field surveys conducted by Trend Environmental. Previously however, the Ornamental Snake was recorded by EcoSM in 2020 within a wetland area within the Survey area surrounded by Brigalow and Coolabah vegetation communities (EcoSM, 2020; records shown in Map 8 [Ornamental Snake habitat and detected presence] in Appendix A). A total of 152.08 ha of breeding habitat, 34.81 ha of foraging habitat and 16.41 ha of dispersal habitat for the Ornamental Snake was verified within the Survey area. With the Ornamental Snake being recorded on one occasion within the Survey area, important habitat was considered to occur within breeding and foraging habitat areas within the Survey area (Map 8, Appendix A). The area of important habitat within the Disturbance area is 75.97 ha, comprised of 56.22 ha of breeding and 19.75 ha of foraging habitat.	Approximately 56.22 ha of breeding habitat, 19.75 ha of foraging, and 5.08 ha of dispersal habitat for the Ornamental Snake will be directly impacted as part of the Project.





¹ Queensland Status (NC Act): EX = Extinct, EW = Extinct in Wild, CR = Critically Endangered, EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern; SLC = Special Least Concern.
Commonwealth (Cth) EPBC Act Status: EX = Extinct, EW = Extinct in Wild, CE = Critically Endangered, EN = Endangered, VU = Vulnerable, M = Marine, Mi = Migratory; - not protected under the Act.
² Data in the 'Likelihood of Occurrence' column corresponds to information provided in Appendix C of the Terrestrial Ecology Assessment Report (Trend Environmental, 2026a) – categories used include known to occur, likely to occur, may occur or unlikely to occur.



4. IMPACTS

The Project will involve both direct and indirect impacts to MNES significant species and communities habitat. The Project requires progressive vegetation clearing to facilitate open cut mining operations and associated disturbance activities. All direct disturbance for the Project will occur within the Disturbance area, while indirect impacts may occur on a larger scale.

The Disturbance area for the Project is 2,083.43 ha, which includes a combination of historically cleared, non-remnant vegetation (1,749.23 ha; represents 83.96 %) and remnant vegetation (334.20 ha; represents 16.04 %).

4.1.1 Potential Direct Impacts

The potential direct impacts from the Project consist of:

- Vegetation clearing
- Habitat removal and loss of connectivity.

Progressive vegetation clearing will result in the direct removal of flora and fauna habitat across the Disturbance area. In addition to habitat loss, the Project will alter the structure, function and integrity of ecosystems within the Disturbance area through vegetation clearing, fragmentation and modification of ecological processes.

The main impact to threatened fauna as a result of the Project will come from vegetation clearing which will result in the loss and reduction in species habitat. The majority of clearing associated with the Project will occur within non-remnant vegetation. However, approximately 334.20 ha of remnant vegetation will be cleared as a result of the Project.

A summary of the potential MNES significant species and communities and communities habitat proposed to be cleared is outlined below in Table 2. It is important to note that the impact areas are not additive as for example, Koala, Greater Glider and Squatter Pigeon habitats overlap.

For most MNES significant species and communities and communities requiring a MNES-SSMP, the Disturbance area represents a relatively small proportion of available habitat within the Survey area. This reflects the Project design, which has sought to avoid areas of higher ecological value where practicable. Notwithstanding this, direct impacts to habitat critical to the survival of certain species will occur, particularly where breeding, foraging and/or dispersal habitat overlaps with the Disturbance area.

Impacts to MNES significant species and communities and communities requiring a MNES-SSMP vary depending on habitat function and species ecology. For arboreal mammals, impacts are moderate, with approximately 9% of Koala breeding habitat and 17% of foraging habitat affected, and 10% of Greater Glider denning habitat and 17% of foraging habitat impacted in the Survey area. For Squatter Pigeon, habitat loss ranges from approximately 4–15% of the Survey area depending on habitat function, with impacts to breeding habitat representing the highest proportion of impact. In contrast, higher proportional impacts are predicted for Ornamental Snake habitat (approximately 31–57%), reflecting the limited extent and highly fragmented nature of suitable habitat for this species within the Survey area, and for Brigalow TEC (41 %).

These results indicate that while the majority of MNES significant species and communities and ecological communities retain a substantial proportion of suitable habitat within the Survey area, the species with more restricted or fragmented habitat distributions are subject to comparatively higher proportional impacts. In all cases, impacts include disturbance to habitat critical to the survival of the species or community, or important habitat which has the potential to exacerbate existing threats and increase the risk of population or community decline in the absence of targeted, species- and community-specific management measures.



Table 4
Disturbance areas
for MNES identified
as occurring within
the Disturbance
area

MNES		Status ¹	Extent of Disturbance (hectares; ha) ²	TOTAL (ha)
Common Name	Species Name			
THREATENED ECOLOGICAL COMMUNITIES				
Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) TEC	EN	52.72	52.72	
Poplar Box Grassy Woodland on Alluvial Plains TEC	EN	15.45	15.45	
THREATENED SPECIES				
Squatter Pigeon	<i>Geophaps scripta scripta</i>	VU	Breeding 308.48 Foraging 14.58 Dispersal 11.09	334.15
Greater Glider	<i>Petauroides volans</i>	EN	Denning and Refuge 87.26 Foraging 230.76	318.02
Koala	<i>Phascolarctos cinereus</i>	EN	Breeding 66.81 Foraging 251.22	318.03
Ornamental Snake	<i>Denisonia maculata</i>	VU	Breeding 56.22 Foraging 19.75	75.97

¹ Commonwealth (Cth) EPBC Act Status: EX = Extinct, EW = Extinct in Wild, CE = Critically Endangered, EN = Endangered, VU = Vulnerable, M = Marine, Mi = Migratory, - not protected under the Act.

² within the Disturbance area.

4.1.2 Potential Indirect and Facilitated Impacts

In addition to potential direct impacts, potential indirect impacts associated with the Project include a number of secondary impact pathways, some of which may also be considered facilitated impacts where Project activities create the conditions for those impacts to occur or increase.

Potential indirect and facilitated impacts associated with the Project activities include:

- Increase in pest and invasive weeds
- Fragmentation and edge effects
- Fauna mortality or injury during vegetation clearing or from vehicle strike
- Erosion and sedimentation
- Hydrological changes to water quality, flooding impacts and impacts to GDEs
- Air quality
- Light impacts
- Noise and vibration impacts
- Bushfire risk
- Influence of Climate Change.

In particular, increased pest and invasive weed spread, fauna injury or mortality from vehicle strike, and elevated bushfire risk may be facilitated by disturbance, access, vehicle movement and increased human activity associated with the Project.

Full assessment of these indirect impacts have been provided in the Terrestrial Ecology Assessment (Trend Environmental, 2026a).



5. IMPACT MITIGATION

5.1 MEASURES TO AVOID AND MINIMISE IMPACTS

Consistent with the impact-mitigation hierarchy, avoidance and minimisation were the primary focus during the design phase of the Project. Substantial effort was directed toward refining the Project layout, Disturbance area and supporting infrastructure to reduce both direct and indirect impacts to MNES significant species and communities wherever practicable.

The Project design was progressively refined using detailed ecological field survey results, Queensland Herbarium-certified RE mapping and habitat suitability modelling. These inputs were applied iteratively to inform mine planning and infrastructure placement, with the explicit objective of reducing the spatial extent of disturbance and avoiding areas of higher ecological value.

Habitat fragmentation and patch isolation have been avoided and minimised through the iterative design of the Disturbance area, which has sought to reduce the extent of vegetation clearing, avoid sensitive habitat where practicable, and retain vegetation linkages between retained habitat patches and the broader surrounding landscape. In particular, the Project has, where practicable, avoided severing contiguous areas of remnant vegetation and habitat critical to the survival of listed species and TECs, so that retained patches are not left isolated within the Survey area. Avoidance areas have been configured to maintain connectivity between retained habitat within the Survey area and adjoining remnant vegetation beyond the Project boundary, thereby supporting continued species movement, dispersal and access to foraging, sheltering and breeding resources. While some localised fragmentation will occur where direct impacts cannot be avoided, the Project layout, disturbance limits and patch retention measures have been designed to ensure retained habitat remains connected, or capable of functioning as part of the broader habitat network, rather than persisting as isolated remnants. On this basis, avoidance areas are expected to continue to enable species mobility across the Project area and maintain functional ecological connectivity with habitat in the broader landscape.

Where avoidance was not practicable, impacts were minimised, with further management controls in the form of mitigation measures proposed.

5.2 MANAGEMENT OBJECTIVES

The main objectives of this MNES-SSMP are to:

- Ensure no clearing/disturbance to MNES significant species and community habitat occurs beyond the Disturbance area.
- Prevent injury or mortality of MNES significant species during construction, operation and decommissioning of the Project, particularly through vegetation clearing within the Disturbance area.
- Manage remaining areas of MNES significant species and community habitat to maintain condition and habitat quality through weed, pest and fire management and limiting disturbance to exclusion areas.

Specific management objectives to be achieved through the implementation of this MNES-SSMP and the associated performance criteria related to each management objective are shown in Table 5.

Table 5

Specific management objectives and performance criteria

Management Objective	Performance Criteria
Avoid and minimise the loss of MNES significant species and community habitat.	• No clearing of MNES significant species or community habitat is to occur outside the approved Disturbance area. • No reduction in locally important food trees for Koala or denning trees for the Greater Glider to occur outside the Disturbance area. • No reduction in permanent water sources used by the Squatter Pigeon to occur outside the Disturbance area. • No reduction in gilgai habitat for the Ornamental Snake habitat is to occur outside the Disturbance area.



Management Objective	Performance Criteria
	Disturbed areas are to be progressively rehabilitated in accordance with the Project's PRCP.
Prevent degradation and maintain habitat values within retained habitat adjacent to the Disturbance area, including habitat not proposed to be cleared for the Project.	- Habitat quality within retained MNES significant species or community habitat is to be maintained relative to the baseline habitat quality scores presented in the Terrestrial Ecology Assessment Report (Trend Environmental, 2026a). - Disturbed areas are to be progressively rehabilitated in accordance with the Project's PRCP.
Minimise the risk of weed introduction and the spread of existing weed species within MNES significant species and community habitat	- No new weed species are to become established within MNES significant species and community habitat, relative to baseline data. - The extent and abundance of existing weed species within retained MNES habitat are not to increase relative to baseline data.
Reduce habitat degradation and potential predation pressure on MNES significant species and communities by pest animals.	- No new pest animal species are to become established within MNES significant species and community habitat relative to baseline data. - Pest animal abundance within MNES significant species and community habitat is to be reduced to below baseline levels.
Minimise impacts of dust deposition on MNES significant species and community habitat during Project construction and operation.	- Dust deposition is not to exceed 120 milligrams (mg)/metre (m)²/day, averaged over one month, when measured at any sensitive receptor. - Dust monitoring is to be undertaken in accordance with the Dust Management Plan (Katestone, 2026).
Minimise noise and vibration impacts on MNES significant species and community habitat.	Noise and vibration levels at sensitive receptors are not to exceed the applicable criteria specified in the EA.
Minimise degradation of MNES significant species and community habitat arising from an increased fire risk associated with Project activities.	No uncontrolled fires are to occur within the Disturbance area as a result of Project-related activities.
Minimise changes to Squatter Pigeon and Ornamental Snake habitat arising from altered water quality and hydrological processes.	- Water quality within and downstream of the Disturbance area is to be maintained so that relevant trigger levels at downstream monitoring sites identified in the EA are not exceeded. - Water quality monitoring is to be undertaken in accordance with the conditions of the EA and Fitzroy Regional Receiving Environment Monitoring Program (FRREMP).
Minimise the potential for mortality or injury to MNES significant species and community habitat resulting from Project activities.	- Mortality or injury to MNES significant species resulting from Project activities is avoided or minimised through the implementation of pre-clearance surveys, use of a suitably qualified fauna spotter/catcher during clearing, fauna handling and relocation procedures, and enforcement of site speed limits. - Vehicle speed limits are to be implemented and enforced. - Fauna awareness training is to be provided to relevant personnel to improve recognition of MNES significant species and associated risk mitigation requirements. - A suitably permitted and experienced FSC is to supervise all clearing activities. - Pre-clearance surveys are to be undertaken prior to disturbance.

5.3 RELVANT PLANS AND GUIDELINES

Table 6 lists the conservation advice and plans relevant to each of the MNES species covered by this MNES-SSMP. These documents have been reviewed in preparing the MNES-SSMP to capture those management objectives and measures outlined in Table 5 that are specific to each of the threatened species and to address the key threatening processes to each MNES.



Table 6 Management objectives per each MNES significant species and community	MNES	Relevant conservation advice and plans	Key Threats	Management Objectives for this MNES-SSMP
	Brigalow TEC	- Approved Conservation Advice for the Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) ecological community (DoE, 2013). - Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) ecological community SPRAT profile (DoE, 2026a) - Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads (DSEWPaC, 2011) has been identified as being relevant to the managing threats to the Brigalow TEC. - The following Strategies have also listed relevant actions to recover Australia's threatened plants, animals and ecological communities: - Australia's Strategy for Nature 2019–2030 (Commonwealth of Australia, 2019). - Threatened Species Strategy 2021–2031 (Commonwealth of Australia, 2021). - Australian Weeds Strategy 2017–2027 (Commonwealth of Australia, 2017b). - Australian Pest Animal Strategy 2017–2027 (Commonwealth of Australia, 2017a). - DPI's Biosecurity Website (DPI, 2023).	The Conservation Advice for the TEC (TSSC, 2013) lists the following threats: - Vegetation clearing - Fire - Pest plants including weed invasion - Pest animals - Lack of knowledge - Overgrazing by native fauna - Climate change	- Limit or avoid loss of MNES ecological communities within the Disturbance area. - Prevent degradation and maintain ecological condition and habitat values within retained Brigalow TEC patches adjacent to the Disturbance area. - Minimise the introduction and spread of weed species within retained Brigalow TEC patches. - Reduce habitat degradation associated with pest animals within retained Brigalow TEC patches. - Minimise degradation of retained Brigalow TEC resulting from inappropriate fire regimes and Project-related fire risk. - Minimise indirect impacts on retained Brigalow TEC from Project activities, including dust deposition and altered surface water processes where relevant.
	Poplar Box TEC	- Conservation Advice (including listing advice) for the Poplar Box Grassy Woodland on Alluvial Plains (DoEE, 2019). - Poplar Box Grassy Woodland on Alluvial Plains ecological community SPRAT profile (DoE, 2026c) Threat abatement plans as relevant to the community: - Threat abatement plan for competition and land degradation by unmanaged goats (DEWHA, 2008b); - Threat abatement plan for competition and land degradation by rabbits (DEWHA, 2008a); - Threat abatement plan for disease in natural ecosystems caused by <i>Phytophthora cinnamomi</i> (DoEE, 2018); - Threat abatement plan for predation by European red fox (DEWHA, 2008c); - Threat abatement plan for predation by feral cats (DoE, 2015); - Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads (DSEWPaC, 2011); - Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs (DoEE, 2017); and	The Conservation Advice for the TEC (DoEE, 2019) lists the following threats: - Vegetation clearance and fragmentation - Weed invasion, particularly invasive grasses - Inappropriate fire regimes - Inappropriate grazing (including unmanaged goats and rabbits) - Dieback - Chemical impact and spray drift - Hydrological changes including alters groundwater levels) - Salinisation - Nutrient enrichment	- Limit or avoid loss of Poplar Box TEC within the Disturbance area. - Prevent degradation and maintain ecological condition and habitat values within retained Poplar Box TEC patches adjacent to the Disturbance area. - Minimise the introduction and spread of weed species, particularly invasive grasses, within retained Poplar Box TEC patches. - Reduce habitat degradation associated with pest animals and inappropriate grazing pressure within Poplar Box TEC. - Minimise degradation of retained Poplar Box TEC resulting from inappropriate fire regimes and Project-related fire risk. - Minimise indirect impacts on retained Poplar Box TEC patches from Project activities, including dust deposition, chemical drift, and changes to hydrology or water quality where relevant.



MNES	Relevant conservation advice and plans	Key Threats	Management Objectives for this MNES-SSMP
	- o <i>Threat abatement plan to reduce the impacts on northern Australia's biodiversity by the five listed grasses</i> (DSEWPaC, 2012b). • The following Strategies have also listed relevant actions to recover Australia's threatened plants, animals and ecological communities: - o <i>Australia's Strategy for Nature 2019–2030</i> (Commonwealth of Australia, 2019). - o <i>Threatened Species Strategy 2021–2031</i> (Commonwealth of Australia, 2021). - o <i>Australian Weeds Strategy 2017–2027</i> (Commonwealth of Australia, 2017b). - o <i>Australian Pest Animal Strategy 2017–2027</i> (Commonwealth of Australia, 2017a). - o <i>DPI's Biosecurity Website</i> (DPI, 2023).	• Invasive fauna • Climate change	
Squatter Pigeon	• <i>Conservation Advice Geophaps scripta scripta squatter pigeon (southern)</i> (TSSC, 2015) • <i>Geophaps scripta</i> – Squatter Pigeon (southern) SPRAT profile (DoE, 2026c) • Threat abatement plans as relevant to the species: - o <i>Threat abatement plan for predation by feral cats</i> (DoE, 2015); - o <i>Threat abatement plan for competition and land degradation by rabbits</i> (DEWHA, 2008a); - o <i>Threat abatement plan for predation by European red fox</i> (DEWHA, 2008c). • The following Strategies have also listed relevant actions to recover Australia's threatened plants, animals and ecological communities: - o <i>Australia's Strategy for Nature 2019–2030</i> (Commonwealth of Australia, 2019). - o <i>Threatened Species Strategy 2021–2031</i> (Commonwealth of Australia, 2021). - o <i>Australian Weeds Strategy 2017–2027</i> (Commonwealth of Australia, 2017b). - o <i>Australian Pest Animal Strategy 2017–2027</i> (Commonwealth of Australia, 2017a). - o <i>DPI's Biosecurity Website</i> (DPI, 2023).	No Recovery Plan for the species occurs, but threats to the species are listed in the Conservation Advice (TSSC, 2015). The listed threats include: • Vegetation clearing and fragmentation of habitat for agriculture. • Overgrazing of pastures by cattle during times of drought which increases weed invasion and reduces native groundcovers required for foraging. • Trampling of nests by domestic stock. • Inappropriate fire regimes. • Predation by feral cats and foxes.	• Limit or avoid loss of MNES significant species and/or habitat for MNES significant species. • Reduce habitat degradation and potential predation on MNES significant species by pest animals. • Minimise impacts of dust deposition on habitat for MNES significant species during construction and operation of the Project. • Minimise potential for mortality or injury to MNES significant species from Project activities (e.g. habitat clearing, vehicle strikes etc).



MNES	Relevant conservation advice and plans	Key Threats	Management Objectives for this MNES-SSMP
Koala	- Conservation Advice for <i>Phascolarctos cinereus</i> (Koala) combined populations of Queensland, New South Wales and the Australian Capital Territory (DAWE, 2022a) <i>Phascolarctos cinereus</i> (combined populations of Qld, NSW and the ACT) – Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) SPRAT profile (DoE, 2026e) - National Recovery Plan for the Koala <i>Phascolarctos cinereus</i> (combined populations of Queensland, New South Wales and the Australian Capital Territory; DAWE, 2022b) - Threat abatement plan for predation by feral cats (DoE, 2015) - The following Strategies have also listed relevant actions to recover Australia's threatened plants, animals and ecological communities: <i>Australia's Strategy for Nature 2019–2030</i> (Commonwealth of Australia, 2019). <i>Threatened Species Strategy 2021–2031</i> (Commonwealth of Australia, 2021). <i>Australian Weeds Strategy 2017–2027</i> (Commonwealth of Australia, 2017b). <i>Australian Pest Animal Strategy 2017–2027</i> (Commonwealth of Australia, 2017a). <i>DPI's Biosecurity Website</i> (DPI, 2023).	The <i>National Recovery Plan for the Koala</i> (DAWE, 2022b) lists the threats to the species as: - Heavy fragmentation and degradation of suitable koala habitat and locally important Koala trees and habitat loss to grazing land. - Lack of suitable permanent water sources. - Potential disease (e.g., Chlamydia). - Fire and drought. - Wild Dog (<i>Canis familiaris</i>)* predation.	- Limit or avoid loss of MNES significant species and/or habitat for MNES significant species. - Prevent habitat degradation and a decline in MNES significant species habitat values within the retained habitat adjacent to the Disturbance area. - Reduce habitat degradation and potential predation on MNES significant species by pest animals. - Minimise potential for mortality or injury to MNES significant species from Project activities (e.g. habitat clearing, vehicle strikes etc).
Greater Glider	<i>Conservation Advice for Petauroides volans</i> (Greater Glider (southern and central)) (DCCEEW, 2022) <i>Petauroides volans</i> – Greater Glider (southern and central) SPRAT profile (DoE, 2026d) - Threat abatement plan for predation by feral cats (DoE, 2015) - The following Strategies have also listed relevant actions to recover Australia's threatened plants, animals and ecological communities: <i>Australia's Strategy for Nature 2019–2030</i> (Commonwealth of Australia, 2019). <i>Threatened Species Strategy 2021–2031</i> (Commonwealth of Australia, 2021). <i>Australian Weeds Strategy 2017–2027</i> (Commonwealth of Australia, 2017b). <i>Australian Pest Animal Strategy 2017–2027</i> (Commonwealth of Australia, 2017a). <i>DPI's Biosecurity Website</i> (DPI, 2023).	No Recovery Plan for the species occurs, but threats to the species are listed in the Conservation Advice (DCCEEW, 2022), which include: - Inappropriate fire regimes. - Habitat clearing and fragmentation. - Timber harvesting. - Barbed wire fencing in agricultural areas. - Climate change. - Predation by Feral Cats and European Red Foxes.	- Limit or avoid loss of MNES significant species and/or habitat/connectivity for MNES significant species. - Prevent habitat degradation and a decline in habitat values within the retained habitat adjacent to the Disturbance area. - Reduce habitat degradation and potential predation on MNES significant species by pest animals. - Minimise risk of degradation of habitat for MNES significant species through onsite fire management and prevention practices for the Project.



MNES	Relevant conservation advice and plans	Key Threats	Management Objectives for this MNES-SSMP
Ornamental Snake	• Approved Conservation Advice for <i>Denisonia maculata</i> (Ornamental Snake; DoE, 2014a) • <i>Denisonia maculata</i> – Ornamental Snake SPRAT profile (DoE, 2026b) • The SPRAT profile (DoE, 2026b) lists there are no Threat abatement plans relevant to the species (DoE, 2026b), however the Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads is relevant (DSEWPac, 2011) • The following Strategies have also listed relevant actions to recover Australia's threatened plants, animals and ecological communities: ◦ <i>Australia's Strategy for Nature 2019–2030</i> (Commonwealth of Australia, 2019). ◦ <i>Threatened Species Strategy 2021–2031</i> (Commonwealth of Australia, 2021). ◦ <i>Australian Weeds Strategy 2017–2027</i> (Commonwealth of Australia, 2017b). ◦ <i>Australian Pest Animal Strategy 2017–2027</i> (Commonwealth of Australia, 2017a). ◦ <i>DPI's Biosecurity Website</i> (DPI, 2023).	No Recovery Plan for the species exists, however threats are listed in the Conservation Advice (DoE, 2014). These threats include: • Continued legacy of past broadscale land clearing and habitat degradation. • Destruction of wetland habitat by Feral Pigs*, associated destruction of frog habitat and direct competition for their food source (frogs; WWF and QMDC, 2008) • Poisoning resulting from the ingestion of Cane Toads* (Phillips et al., 2003).	• Limit or avoid loss of MNES significant species and/or habitat for MNES significant species. • Prevent habitat degradation and a decline in MNES significant species habitat values within the retained habitat adjacent to the Project area and mining areas. • Reduce habitat degradation and potential predation on MNES significant species by pest animals. • Minimise impacts of dust deposition on habitat for MNES significant species during construction and operation of the Project. • Minimise habitat alteration from changes to water quality and hydraulic activity. • Minimise potential for mortality or injury to MNES significant species from Project activities (e.g. habitat clearing, vehicle strikes etc).



5.4 IMPACT MITIGATION

Planning and management of disturbances for the Project were assessed by taking into consideration the expected requirements of approval conditions as well as a set of hierarchical management principles as outlined in State and Commonwealth offset policies. These actions are designed to avoid impacts, minimise impacts and mitigate impacts to the environmental values including threatened fauna.

This MNES-SSMP has been developed considering these management principles (in order of preference) with relevance to impacts on MNES significant species and communities:

- **Avoidance:** *Avoiding direct and indirect adverse impacts where possible through Project design*
- **Minimise:** *Minimising direct and indirect adverse impacts where impacts cannot be avoided through modifying design, the timing of construction or employing specialist clearing and construction methods*
- **Mitigate:** *Implement mitigation and management actions to unavoidable impacts, through design management actions and rehabilitation*
- **Remediation and rehabilitation:** *Actively and progressively remediate and rehabilitate impacted areas to promote and maintain long-term recovery*
- **Offset:** *Stanmore will be required to provide suitable offsets for activities that result in unavoidable significant residual adverse impacts to MNES. These offsets will be provided in accordance with the final EPBC approval conditions.*

The hierarchy of management actions will be applied to all activities with the aim of minimising impacts to threatened MNES fauna species.

5.5 PHASE STRATEGIES

5.5.1 Design Phase Strategy

The Project was designed to utilise existing infrastructure wherever practicable in order to minimise impacts on MNES significant species and communities. Where the use of existing infrastructure was not feasible, such as for additional access tracks and haul roads, the design sought to minimise the overall Disturbance area to the greatest extent practicable.

5.5.2 Pre-construction Phase Strategy

During the vegetation clearing and soil disturbance phases of the activity, pre-clearance surveys will be undertaken by suitably qualified ecologists within 48 hours prior to disturbance works to assess the presence of MNES significant species. Any native fauna detected will be relocated to suitable habitat outside the Disturbance area.

Suitably permitted and experienced FSCs will supervise all vegetation clearing works. The appropriate FSC to clearing machinery ratio will be determined by the qualified FSC prior to the commencement of clearing activities. This approach will enable fauna to be relocated from the Disturbance area where required and, if necessary, disturbance activities to cease until any risk to the health and welfare of fauna has been appropriately managed.

5.5.3 Rehabilitation, Operation and Maintenance Phase Strategy

To minimise impacts on MNES significant species from habitat loss, habitat degradation and erosion, disturbed areas, including riparian corridor crossings, will be rehabilitated. Rehabilitation and decommissioning will be undertaken in accordance with the rehabilitation requirements of the final approval conditions, including the PRCP, with the objective of establishing a stable landform supporting a self-sustaining vegetation cover.

The final approval and PRCP will establish rehabilitation goals, objectives, indicators and completion criteria for each mine domain within the Project. The mine domains comprise mine infrastructure, overburden emplacement areas and the final void. All domains are intended to achieve a post-mining grazing land use, other than areas of native, riparian vegetation at watercourse crossings and along the diversion, native vegetation on the in-pit low wall slopes, and the final void which will support stock watering. Completion criteria will include measures such as foliage and ground cover, soil quality, plant regeneration, the presence of key plant species, weed abundance, and achievement of grazing land use classification in accordance with the Queensland Guideline for Agricultural Land Evaluation (DSITI and DNRM, 2015), or native vegetation in



accordance with vegetation community benchmarks. These criteria will be used to demonstrate the suitability of rehabilitated areas.

The final approval and PRCP will also establish milestones for completion of the rehabilitation schedule, including progressive rehabilitation of overburden emplacement areas, reshaping to final landform design, topsoiling and seeding. Rehabilitation monitoring will be undertaken in accordance with the requirements of the approved EA, to determine whether rehabilitation goals, objectives, indicators and completion criteria are being achieved and to inform remedial action where monitoring indicates that such action is required.

5.6 GENERAL MANAGEMENT MEASURES

This section of the MNES-SSMP outlines a series of management measures designed to mitigate impacts to significant species and communities, based on known threats. Table 7 outlines relevant management measures that will be undertaken to mitigate, manage and monitor the impacts of the Project on MNES significant species and communities, and achieve the objectives for habitat management.

The management objectives, performance criteria, management and monitoring activities outlined in Table 7 have been developed based on ecological field surveys and considering operational practicalities. Development has also been undertaken in accordance with the key threats and recommended priority actions as outlined in the species-specific recovery plans, threat abatement plans and conservation advice.



Table 7	Management Objective	Performance Criteria	Management and Mitigation Measures	Trigger for further action	Monitoring	Corrective Actions
Measures to mitigate impacts to MNES significant species and communities	Avoid and minimise the loss of MNES significant species or communities and habitat for them.	- Clearing of MNES significant species and community habitat is not to occur outside the Disturbance area and is not to exceed the disturbance limits specified in Table 4 of this MNES-SSMP. - No loss of Brigalow TEC or Poplar Box TEC is to occur outside of the Disturbance area. - No loss of Squatter Pigeon, Koala, Greater Glider or Ornamental Snake habitat is to occur outside the Disturbance area. - No loss of Squatter Pigeon habitat or permanent water sources used by the species is to occur outside the Disturbance area. - No loss of locally important food trees for the Koala to occur outside the Disturbance area. - No loss of denning trees for the Greater Glider to occur outside the Disturbance area. - No loss of gilgais for the Ornamental Snake to occur outside the Disturbance area. - Disturbed areas are to be rehabilitated in accordance with the Project's PRCP.	- Infrastructure will be located in accordance with State and Commonwealth approval conditions. - All areas requiring vegetation clearing will be clearly delineated prior to works commencing to avoid disturbance to retained habitat. Clearing limits will be identified using barricading or temporary fencing and signage. Exclusion areas will be clearly shown and labelled on all relevant operational and management plans and drawings. GIS shapefiles will be provided to clearing personnel and/or contractors prior to the commencement of clearing activities. - Where exclusion fencing is required, its design and placement will take into account fauna movement, existing land uses and worker safety requirements. - Permanent water sources to be retained, including farm dams located outside the Disturbance area, will be clearly delineated and identified on all relevant operational and management plans and drawings. - Where practicable and within the constraints of the mining schedule, clearing and creek disturbance activities will be timed to avoid key breeding periods for impacted MNES significant species, including the principal breeding season for the Squatter Pigeon (April to October; (Squatter Pigeon Workshop, 2011) - Prior to entry to the Disturbance area, all site personnel, including contractors, will be made aware through toolbox talks and site information sheets of the sensitive environments in and around which they will be working, and of the specific limitations applying to construction works undertaken within or adjacent to threatened fauna habitat. All personnel and contractors will be required to report sightings of relevant fauna within the activity area to the EO immediately. - An internal Permit to Disturb system will be implemented by the EO to ensure that all clearing activities are authorised prior to disturbance. All conditions specified in the Permit to Disturb must be implemented. - The EO will routinely inspect disturbance boundaries to verify that no clearing or disturbance of vegetation or habitat beyond approved limits has occurred. - Temporary stockpile areas for soil and equipment, access tracks, laydown areas and other ancillary infrastructure will, wherever reasonably practicable, be located in previously cleared areas and will not be placed within MNES significant species habitat. - Prior to construction commencing, signage, including applicable speed limits, will be installed in the vicinity of exclusion areas to warn of the potential presence of threatened fauna. - Pre-clearance surveys will be undertaken by a suitably qualified ecologist within 48 hours prior to the commencement of clearing. - Pre-clearance surveys will record the location of hollow-bearing trees, log piles and nests using GPS. Relevant hollow characteristics, including diameter, number, and active or inactive status, will be recorded in the environmental register. - Non-breeding fauna captured during pre-clearance surveys will be relocated to suitable habitat adjacent to the disturbance area and within the Disturbance area. - A FSC will be present during all clearing activities and will undertake a walk-through inspection prior to initial clearing and at the commencement of each clearing day to inspect vegetation and other fauna habitat features. - The FSC will reinspect cleared areas immediately following clearing to identify any injured fauna, which will be transferred to a wildlife carer or veterinarian as required. - Vegetation clearing will be undertaken progressively, with trees felled toward the cleared area to avoid impacts on adjoining retained vegetation and habitat. - Hollow-bearing trees will be clearly marked, with surrounding vegetation removed while the hollow-bearing tree is retained standing for at least one night, where practicable, to encourage fauna to relocate naturally. Hollows will be inspected to determine whether they are occupied. - Where fauna remain present after one night, the hollow entrance may be temporarily blocked with a towel or similar material and the hollow section removed by cutting below the hollow. The hollow section containing the animal will then be installed in similar retained adjoining vegetation at a comparable height and orientation, with the entrance unblocked at dusk. - Where this is not practicable, hollow-bearing trees will be felled in a controlled manner using suitable equipment such as a tree grab. Where safe and feasible, hollow-bearing trees will be felled at dusk to maximise the opportunity for fauna to disperse during their normal activity period. Trees will be felled away from hollow openings, and the trunk will be struck near the base prior to felling to encourage fauna	- Clearing of MNES significant species and community habitat exceeds the Disturbance area limits specified in Table 4 of this MNES-SSMP. and/or occurs outside the approved Disturbance area. - Disturbance occurs to permanent water sources outside the approved Disturbance area that may provide habitat for Squatter Pigeon or Ornamental Snake. - Disturbance occurs to locally important food trees outside the approved Disturbance area that may provide foraging resources for the Koala. - Disturbance occurs to denning trees outside the approved Disturbance area that may provide denning and refuge resources for the Greater Glider. - Disturbance occurs to gilgais outside the approved Disturbance area that may provide habitat for the Ornamental Snake. - Rehabilitation or decommissioning does not meet the objectives of the PRCP.	- The FSC will monitor clearing activities and record all fauna encountered. - The EO will monitor and record the total area of MNES significant species and community habitat cleared on a quarterly basis and assess compliance against the disturbance limits specified in Table 4 of this MNES-SSMP. - The EO will undertake quarterly audits of Permit to Disturb records to confirm that disturbance has been carried out in accordance with the Permit to Disturb, this MNES-SSMP and approval conditions, and that no unauthorised disturbance has occurred. - Rehabilitation monitoring will be undertaken in accordance with the PRCP required under the final approval conditions.	- If clearing of MNES significant species and community habitat exceeds the approved disturbance limits specified in Table 4 of this MNES-SSMP and/or occurs outside the approved Disturbance area, clearing and associated works will cease immediately and DCCEEW will be notified within five (5) business days. The incident will be recorded in the Project's environmental incident reporting system. - Within 20 business days of the incident, the affected area will be assessed by a suitably qualified person, and a Corrective Action Contingency Plan will be prepared and provided to DCCEEW outlining the corrective actions required. - The Corrective Action Contingency Plan will include an implementation schedule for all corrective actions. - Where rehabilitation or decommissioning does not meet the objectives, completion criteria or schedule in the PRCP, the cause of the non-compliance will be investigated and appropriate remedial measures implemented.



Management Objective	Performance Criteria	Management and Mitigation Measures	Trigger for further action	Monitoring	Corrective Actions
		to vacate. Once felled, the tree will be inspected for fauna, and any injured fauna rescued and transferred to a wildlife carer or veterinarian. - Any fauna captured during clearing will be relocated to adjacent suitable habitat at least 200 m from the clearing area where clearing works are ongoing. - Where MNES significant species are identified and delay to clearing is not feasible due to critical activity scheduling, a 50 m exclusion zone will be established and left undisturbed for a minimum of 24 hours while clearing proceeds around it. After 24 hours, a FSC may relocate the animal to suitable habitat at least 200 m from the Disturbance area. Where the survival of eggs or young is unlikely due to disturbance, they will be transferred to a previously identified wildlife carer or veterinarian.			
Prevent habitat degradation and a decline in MNES significant species and community habitat values within the retained habitat adjacent to the Disturbance area.	Habitat quality scores within retained MNES significant species and community habitat are maintained relative to baseline habitat quality scores	- Areas of MNES significant species and community habitat adjacent to the Disturbance area and within mining leases will be clearly delineated, shown and labelled on all operational and management plans and drawings. GIS shapefiles will be provided to clearing personnel and/or contractors prior to the commencement of clearing works. - Access to the Disturbance area will be restricted to designated access tracks. Unauthorised access will not be permitted. - Prior to the commencement of the disturbance, signage, including speed limit signage, will be installed to warn personnel of the potential presence of MNES significant species. - Posters will be prepared and displayed in meeting areas to remind staff and contractors of the MNES significant species and communities present within the Disturbance area. - Prior to entering the Disturbance area, all personnel, including contractors, will be informed through toolbox talks and site information sheets of the sensitive environmental values in and around their work areas, including any restrictions on construction and/or operational activities in or adjacent to threatened fauna habitat. - All staff and contractors will be required to report sightings of MNES significant species to the EO immediately. - Where tree hollows suspected of being used by Greater Gliders are identified within the Disturbance area and require clearing, those hollows will be salvaged to the greatest extent practicable and relocated to retained vegetation. Where practicable, the relocation site will be within gliding distance of other trees and will replicate the height and orientation of the original breeding or nesting structure. Sections of hollow branch or log will be secured in the new location using methods deemed appropriate by the FSC, such as bolts or metal bands. Relocation will be undertaken under the supervision of a FSC. - Selected trees and/or logs will be salvaged and reused as fauna habitat to enhance retained vegetation habitat values, including in riparian areas. Trees and other habitat features to be salvaged will be identified and flagged by the FSC during walk-through surveys and/or clearance activities. - Where an occupied tree hollow cannot be relocated, replacement breeding habitat will be installed nearby within retained vegetation, but at least 200 m from the disturbance area, in undisturbed habitat, with artificial nesting structures provided on a 1:1 basis using current best-practice nest box design. - Dust suppression measures will be implemented in accordance with the Dust Management Plan (Katestone, 2026) and relevant <i>Coal Mining Safety and Health Act 1999</i>(CMSHA) and <i>Coal Mining Safety and Health Regulation 2017</i>(CMSHR) requirements. - Existing fencing will be maintained. - Existing water management infrastructure, and erosion and sediment control devices, will be maintained. - Pest animals and weeds will be managed in accordance with the Project's Weed and Pest Management Plan (Trend Environmental, 2026b). - Lighting will be directed towards the open cut pits to minimise light spill. - Low-wattage lighting and light shields/guards will be used to reduce spill lighting effects.	Habitat quality scores within retained MNES significant species and community habitat are not maintained, for example where habitat condition declines below the baseline habitat quality score.	- Habitat quality assessments will be integrated into the monitoring program. - Monitoring will be undertaken every two years in retained MNES significant species and community habitat areas. - Monitoring will be undertaken in accordance with relevant Commonwealth and State guidelines for determining terrestrial habitat quality.	- Where inadvertent disturbance to MNES significant species and community habitat occurs, an investigation will be undertaken. - Where a decline in habitat quality scores is identified, the cause will be investigated, and a Corrective Actions Contingency Plan will be prepared by a suitably qualified ecologist within 20 business days of detection. The Plan will include appropriate corrective actions and an implementation schedule. - Corrective actions identified in the Plan will be implemented within 30 days of the trigger being detected. - Depending on the cause of the decline, corrective actions may include: - Rehabilitation of the habitat; - Additional environmental awareness training for personnel regarding MNES significant species and communities; - Increased pest animal and weed control, or revision of the control measures being applied; - Increased frequency of dust suppression; and - Repair of damaged fencing or installation of additional fencing, where required.
Minimise the risk of weed introduction and/or the spread of existing weed species in habitat areas for MNES significant species and communities	No new weed species become established in MNES significant species and community habitat areas relative to baseline data. Weed spread does not increase relative to baseline conditions.	- Weeds will be managed in accordance with the Project's Weed and Pest Management Plan (Trend Environmental, 2026b). - The Weed and Pest Management Plan includes: - A site induction program providing weed management information to staff, contractors and visitors; - Detailed control measures aimed at eradicating, where practicable, or otherwise reducing weed extent in accordance with Queensland Department of Agriculture and Fisheries (DAF) guidelines and the requirements of the <i>Biosecurity Act 2014</i>(Qld);	- An increase in the average percent cover of weed species relative to baseline and/or previous monitoring events. - Detection of weed species not previously recorded within the Project area	- Weed monitoring outside the Disturbance area will be undertaken during habitat quality assessment surveys. - Monitoring will be undertaken every two years.	Following investigation, a Corrective Action Contingency Plan will be prepared by a suitably qualified ecologist within 20 business days of the trigger being detected. The Plan will include appropriate corrective actions and an implementation schedule.



Management Objective	Performance Criteria	Management and Mitigation Measures	Trigger for further action	Monitoring	Corrective Actions
		- Vehicle washdown procedures for all vehicles entering site that will travel beyond the site office carpark; and - Targeted weed control measures within the Project area.	during baseline and/or previous monitoring.	Where an increase in weed cover or the presence of new weed species is observed, an investigation will be undertaken to determine the cause. This will include a review of compliance with the Weed and Pest Management Plan and an assessment of weed distribution across the Project area relative to baseline conditions.	- Corrective actions identified in the Plan will be implemented within 30 days of the trigger being detected. - Potential corrective actions may include: - increasing the frequency and/or duration of weed control activities; - investigating and/or implementing alternative weed control measures; - revising weed hygiene practices; and - updating the Weed and Pest Management Plan.
Reduce habitat degradation and potential predation on MNES significant species and communities by pest animals	No new pest animal species become established in MNES significant species and community habitat areas relative to baseline data. Pest animal numbers in MNES significant species and community habitat areas are reduced to below baseline levels.	Pest animals will be managed in accordance with the Weed and Pest Management Plan (Trend Environmental, 2026b). - Weed and Pest Management Plan includes: - Appropriate waste management and disposal; - A reporting framework to record pest animal sightings; - Site inductions that include information on pest animals, control requirements, the importance of appropriate waste management, and reporting obligations where pest animals are observed during construction or operation; and - Pest animal control measures. - Pest management actions will primarily target pest species identified within the Project area, including Cane Toads, Feral Cats, Wild Dogs, House Mice and European Rabbits, which have the potential to impact MNES significant species and communities, and their habitat. Additional pest species will be incorporated where identified during habitat quality monitoring, such as European Foxes and Feral Pigs. - Pest management measures may include shooting, trapping, fencing and baiting, undertaken in accordance with site safety and health requirements, DAF guidelines, the <i>Biosecurity Act 2014</i> (Qld), and as permitted under a Safety and Health Management System (SHMS).	- An increase in sightings/signs and/or relative abundance of pest animals in retained MNES significant species and community habitat above baseline levels. - Direct observation of, or evidence of, a pest animal species not previously recorded in the Project area during baseline surveys.	- Pest animal monitoring outside the Disturbance area will be undertaken during habitat quality assessment surveys. - Monitoring will be undertaken every two years. - Where evidence of pest animals increases relative to baseline, an investigation will be undertaken to determine possible causes, such as inappropriate waste management. - Where predation on MNES significant species is observed, an investigation will be undertaken to determine possible contributing factors. - Compliance with the Project's Weed and Pest Management Plan will be reviewed.	- Following investigation, a Corrective Actions Contingency Plan will be prepared by a suitably qualified ecologist within 20 business days of the trigger being detected. The Plan will include appropriate corrective actions and an implementation schedule. - Corrective actions identified in the Plan will be implemented within 30 days of the trigger being detected. - Potential corrective actions may include: - increasing the frequency and/or duration of pest animal control efforts; - investigating and/or implementing alternative pest animal control methods in consultation with DAF; and - updating the Weed and Pest Management Plan to include additional pest species, where relevant.
Minimise impacts of dust deposition on MNES significant species and community habitat during construction and operation	- Dust deposition does not exceed 120 mg/m²/day, averaged over one month at any sensitive receptor. - Dust monitoring is undertaken in accordance with the Dust Management Plan (Katestone, 2026).	- Dust suppression will be undertaken in accordance with the Dust Management Plan and will include: - staging vegetation clearing to minimise areas of disturbed and exposed ground; - progressive rehabilitation of disturbed areas; - removal and dumping of overburden as soon as reasonably practicable following blasting; - regular watering of haul roads and access tracks in accordance with CMSHR requirements; - dust suppression spraying of stockpiles; - limiting grading and/or dozing in high dust-generating areas; - limiting overburden drilling; and - enforcing speed limits in accordance with CMSHA and CMSHR requirements.	- Dust deposition exceeds 120 mg/m²/day when averaged over one month at sensitive receptors. - Visual inspections of vegetation adjacent to the Disturbance area indicate visible dust deposition.	- Dust deposition monitoring will be undertaken in accordance with EA approval conditions and the Project's Dust Management Plan. - Existing monitoring will include visual inspections of vegetation adjacent to the Disturbance area.	- Where dust deposition monitoring exceeds the trigger value of 120 mg/m²/day averaged over one month, Stanmore will investigate whether the exceedance is attributable to Project activities and notify the administering authority within seven days. - Where exceedances are attributed to Project activities, dust abatement measures will be implemented. - Corrective actions identified in the Dust Management Plan will be implemented.
Minimise noise and vibration impacts in areas of MNES significant	When measured, noise and vibration levels do not exceed the criteria specified in the approval conditions.	- Plant and equipment will be regularly maintained and serviced to minimise machinery noise. - Engine covers will remain closed while equipment is operating. - Blasting will only occur during nominated daytime hours in the Project's EA.	Noise and vibration levels measured at sensitive receptors exceed the	Noise and vibration monitoring will be undertaken in accordance with the monitoring	Where monitoring indicates exceedance of the trigger values, Stanmore will investigate whether the exceedance is attributable to mining activities.



Management Objective	Performance Criteria	Management and Mitigation Measures	Trigger for further action	Monitoring	Corrective Actions
species and communities habitat			criteria specified in the approval conditions. Blasting occurs outside approved blasting times.	requirements specified in the approval conditions.	- Where exceedances are attributed to mining activities, appropriate noise and vibration abatement measures will be implemented. - Corrective actions identified during the investigation will be implemented.
Minimise the risk of MNES significant species and community habitat degradation through onsite fire management and fire prevention practices	No uncontrolled fires resulting from Project-related activities occur within the Project area	- Fire management for coal mining operations in Queensland will be undertaken in accordance with CMSHA and CMSHR requirements. - Section 37 of the CMSHR requires that the coal mine SHMS include Standard Operating Procedures (SOPs) for actions to be taken when a fire is identified at the mine. - The Bushfire Management Plan will be implemented. - Buffers will be maintained around potential ignition sources, including plant, machinery, haul roads and mine infrastructure. - Prior to site entry, all relevant personnel, including contractors, will be informed of fire risks and fire safety requirements. - Fuel loads will be minimised and managed through weed control measures contained in the Weed and Pest Management Plan (Trend Environmental, 2026b).	- An uncontrolled fire occurs within the Project area as a result of mining activities. - Weed cover exceeds baseline levels and groundcover biomass exceeds benchmark levels.	- Compliance with the SHMS will be monitored in accordance with CMSHA and CMSHR requirements. - Biomass monitoring, including groundcover and organic litter, for fire management purposes will be undertaken during habitat quality assessments every two years. - Where an uncontrolled fire occurs, the Emergency Response Plan will be enacted. Any required corrective actions or changes to fire management will be undertaken in accordance with CMSHA and CMSHR requirements and incorporated into the SHMS. - Where biomass monitoring indicates an increased risk of uncontrolled fire, biomass control measures will be assessed by a suitably qualified ecologist within 20 business days. Measures may include controlled burning, strategic grazing or revised weed management practices.	Any corrective actions identified will be implemented within 30 days of the trigger being detected.
Minimise alteration of MNES significant species and community habitat within riparian areas arising from changes to water quality and hydraulic activity	- Water quality resulting from the Project does not exceed receiving water trigger levels at downstream monitoring sites specified in the approval conditions. - Water quality monitoring is undertaken in accordance with the FRREMP - Erosion and sediment control is undertaken in	- Site stormwater management will be undertaken in accordance with management plans and programs required by the approval conditions, including the FRREMP. - The site-specific Water Management Plan (WMP), REMP and ESCP, together with other approval-related water management requirements, will be implemented. - Required management plans will be implemented to minimise changes to receiving environment water quality, sediment mobilisation and erosion-related disturbance to the existing hydrological regime. - The maintenance and cleaning of vehicles, plant and equipment will not be undertaken in areas where contaminants may be released to receiving waters. - Spillages of wastes, contaminants or other materials will be cleaned up as soon as practicable to minimise release to stormwater systems or receiving waters.	- Water quality monitoring exceeds the approved receiving environment trigger levels specified in the approval conditions. - Visual inspections of water management infrastructure indicate signs of failure. - Habitat quality scores within retained riparian vegetation are not maintained, for example	- Water quality monitoring will be undertaken in accordance with the approval conditions and the FRREMP. - Monitoring of erosion and sediment control devices and water management infrastructure will be undertaken with approval conditions.	- Where downstream water quality exceeds final EA trigger levels and those levels are greater than upstream monitoring locations, Stanmore will investigate the exceedance and the potential for environmental harm and provide a written report to the administering authority as part of the Project's Annual Return. - Where water quality exceedances are attributed to Project activities, the effectiveness of the WMP and FRREMP will be assessed and appropriate corrective actions incorporated into plan revisions and annual reporting, in accordance with approval conditions.



Management Objective	Performance Criteria	Management and Mitigation Measures	Trigger for further action	Monitoring	Corrective Actions
	accordance with the ESCP (Hydrobalance, 2026). Riparian habitat quality scores within retained MNES significant species and community habitat are maintained relative to baseline.		where habitat condition declines below baseline.	Habitat quality assessments will be undertaken every two years in retained MNES significant species and community habitat.	- Where a decline in riparian habitat quality scores is observed that is attributable to the Project, the cause will be investigated and a Corrective Actions Contingency Plan prepared by a suitably qualified ecologist within 20 business days of detection. The Plan will include appropriate corrective actions and an implementation schedule. - Corrective actions identified will be implemented.
Minimise the potential for mortality or injury to MNES significant species as a result of Project activities including habitat clearing and vehicle strikes	No mortality of, or injury to, MNES significant species occurs as a result of Project activities including habitat clearing and vehicle strikes.	- Environmental awareness training will be provided to all workers during site induction and will include specific information on MNES significant species, associated risks, protective measures, and identification of MNES fauna. - Pre-clearance surveys will be undertaken within 48 hours prior to clearing to assess the presence of MNES significant species within areas proposed for disturbance. - At least one qualified FSC will be present during clearing activities. - A wildlife carer will be contacted to collect any injured fauna. - Speed limits of 60 km/hour (h) will be established and enforced on all internal roads at potentially sensitive locations for fauna, including haul roads. - Vehicles will comply with site speed limits, and access to restricted areas and exclusion zones will be limited to critical site-specific activities to minimise risks to MNES significant species. - All injured fauna encountered during construction and operation will be transported to a wildlife carer/facility or veterinarian within 24 hours. - Where injured fauna is encountered and it is unsafe to handle the animal, the following will occur: - the animal's location will be recorded to enable relocation; - the species will be identified where possible, together with sex and approximate size; - the type of injury will be identified where possible; and - the EO will immediately contact Queensland Department of Environment Tourism, Science and Innovation (DETSI) to report the animal and arrange capture and transport to a wildlife carer or veterinarian.	Injury to, or mortality of, an MNES significant species individual.	- All personnel will be required to report any interaction between vehicles and/or machinery and MNES significant species within the Project area. - Visual observations during normal working hours will be undertaken. - Incidental observations during habitat quality assessments will also be recorded.	- Where injury to, or mortality of, MNES significant species occurs, an investigation will be undertaken to determine the cause. - Where the injury or mortality is attributable to mining activities, a Contingency Plan will be prepared by a suitably qualified ecologist within 20 business days. The Plan will include corrective actions and an implementation schedule. - Corrective actions identified in the Contingency Plan will be implemented within 30 days of the trigger being detected.



6. MONITORING

6.1 OVERVIEW

Stanmore will implement a monitoring program for the Project. The purpose of the monitoring program is to assess the effectiveness of the management measures proposed in the MNES-SSMP.

Monitoring methods will be:

- aligned with the specific performance criteria being assessed, such that they can determine whether the relevant performance criteria have been met and whether corrective action is required; and
- quantitative and repeatable, so that results from each monitoring event can be compared over time to identify changes and trends.

Monitoring of weeds and pest animals was undertaken during the ecological surveys to support the Project approvals and establish a baseline for future comparison. Ongoing monitoring will be undertaken every two years.

The overarching objectives of the monitoring program are to:

- Assess performance of the MNES-SSMP against the relevant performance criteria;
- Identify triggers requiring further action;
- Develop corrective actions where required; and
- Inform future review and amendment of the MNES-SSMP and associated management plans.

6.2 MONITORING METHODOLOGY

6.2.1 General Site Inspections

General inspections of retained MNES significant species and community habitat, erosion and sediment control devices, water storages, diversion drains and rehabilitated areas, once established, will be undertaken at least twice per year to assess:

- signs of erosion;
- visible changes in water quality;
- evidence of damage to erosion and sediment control devices;
- whether exclusion fencing and signage remain intact;
- seepage from water storages;
- signs of dust deposition on vegetation adjacent to disturbance areas;
- injured or deceased MNES significant species; and
- incidental observations of weeds and pest animals.

6.2.2 Habitat Quality Monitoring

Baseline ecological surveys were undertaken as part of the approval process. Ongoing habitat quality monitoring will be undertaken at the monitoring points within retained MNES significant species and community habitat areas to assess changes in habitat condition.

Habitat quality assessments are to be undertaken by suitably qualified ecologists every two years, and will include the following methods, as relevant to State and Commonwealth fauna survey guidelines:

- infrared cameras;
- spotlighting;
- diurnal bird surveys;
- active searches;



Habitat quality assessments will also include evaluation of weed abundance and distribution, together with assessment of the presence and relative abundance of pest animals as per *Sections 6.2.3 Weed Monitoring* and *6.2.4 Pest Animal Monitoring*.

Photo monitoring will be undertaken at each monitoring location during habitat quality assessments to enable visual comparison of habitat condition over time. Photographs will be taken in north, east, south and west directions, with a permanent feature included in the frame to provide a fixed reference point. A photographic record will be maintained, including GPS coordinates, date, time, direction and the height above ground from which each image was taken.

Data collected from habitat quality assessments and photo monitoring will be recorded on survey sheets and appended to the monitoring reports included within the annual compliance reports.

6.2.3 Weed Monitoring

The presence and distribution of weeds were initially assessed during ecological surveys undertaken as part of the approval process.

Weed surveys within the Disturbance will be undertaken for the duration of the approval and will be completed in conjunction with the habitat quality monitoring every two years described in *Section 6.2.2 Habitat Quality Monitoring*. These surveys will inform the Annual Prioritisation Schedule for weeds, as described in the Weed and Pest Management Plan (Trend Environmental, 2026b).

In addition to permanent weed monitoring sites, all incidental weed observations within the broader Project area will be recorded, including through quarterly inspections of access points, access tracks and roads. This will assist in identifying weed infestations occurring outside the permanent monitoring sites. Where weed trigger levels are reached or exceeded, additional monitoring will be undertaken in conjunction with appropriate management measures until weed presence and distribution return to baseline levels or below.

6.2.4 Pest Animal Monitoring

An initial assessment of the presence and distribution of pest animals was initially assessed during ecological surveys undertaken as part of the approval process.

Existing and ongoing pest animal surveys will be undertaken every two years for the duration of the approval in conjunction with the habitat quality monitoring every two years described in *Section 6.2.4 Pest Animal Monitoring*.

Pest animals will also be surveyed opportunistically throughout the year outside formal monitoring events, including observations of any new pest species not previously recorded and known to prey on MNES significant species, or degrade MNES significant species or community habitat.

Evidence of mortality or injury to MNES significant species attributable to pest animals will also be recorded during surveys. Where trigger levels for pest animal species are reached or exceeded, additional monitoring will be undertaken in conjunction with appropriate management measures until pest animal presence returns to baseline levels or below.

6.2.5 Dust

Dust deposition will be monitored in accordance with approval conditions and the Dust Management Plan (Katestone, 2026). Monitoring will continue at all established dust monitoring locations, including within retained vegetation, to assess potential impacts on retained MNES significant species and community habitat. Dust deposition within retained vegetation will also be assessed visually during general site inspections, including quarterly inspections of access points, access tracks and roads.

6.2.6 Noise and Vibration

Noise generated by mining activities will be monitored in accordance with approval conditions. Where monitoring is requested by the administering authority or undertaken in response to a complaint, the administering authority will be notified of the results. Where monitoring identifies an exceedance of the relevant noise limits at a sensitive receptor, as specified in the approval conditions, the administering authority will be notified.

6.2.7 Water and Erosion and Sediment Control

Water quality will be monitored in accordance with approval conditions and the relevant management plans, including requirements for monitoring locations, frequencies and trigger levels. Approval conditions are expected to specify water



release points, release limits and contaminant trigger levels to be monitored. Approval conditions are also expected to include notification timeframes for the commencement and cessation of release events, reporting requirements, and requirements for monitoring water storages, including monitoring locations and frequencies. Monitoring will be undertaken in accordance with all approval conditions and the FRREMP.

Visual inspections of all erosion and sediment control devices and water storages will also be undertaken immediately prior to the wet season, for example between August and October, and following rainfall events greater than 70 millimetres (mm) in 24 hours, unless otherwise specified by approval conditions.

6.2.8 Fire

Fire management within the Disturbance area will be undertaken in accordance with the CMSHA, CMSHR, Bushfire Management Plan and SHMS to manage fires arising from mining activities that may spread to MNES significant species and community habitat. The CMSHR includes monitoring and review requirements relevant to the SHMS.

Biomass monitoring for fire management purposes will be undertaken as part of habitat quality assessments described in *Section 6.2.2 Habitat Quality Monitoring* attributes associated with ground cover, including grass cover, organic litter, coarse woody debris and weeds, will be used as surrogate indicators of biomass. Where these surrogates indicate an increase beyond benchmark values, suitable management actions to reduce biomass loads will be investigated by a suitably qualified expert, in consultation with the site senior executive and in accordance with the CMSHA, CMSHR and SHMS.



7. REPORTING

7.1 DATA MANAGEMENT

The EO will be responsible for overseeing and managing all monitoring activities and programs required under this MNES-SSMP, including maintenance of all associated data records.

7.2 REPORTING

The results of all monitoring programs will be documented in standalone progress reports and consolidated into an annual compliance report. The annual report will be provided to DCCEE and DETSI as required. Compliance reporting will include, at a minimum, an introduction, purpose, summary of activities undertaken during the reporting period, and a compliance table addressing both approval conditions and the management actions set out in Table 7.

7.3 IMPLEMENTATION

Stanmore will not commence clearing of habitat for the MNES species and communities listed in Table 4 of this MNES-SSMP until the Project, being the action, has been approved by the Minister and all pre-construction approval conditions have been satisfied. Following approval, this MNES-SSMP will be implemented and will remain in effect for the life of the Project.

Table 8 provides an indicative implementation schedule for monitoring.

Table 8
Monitoring Program

YEARS	2027	2029	2031	2033	2035	2037	2039	2041	2043	2045	2047
Ecological Monitoring Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

7.4 AUDITING AND REVIEW

Internal audits and reviews of management and monitoring activities will be undertaken where a trigger for further action is identified, as described in Table 7, and where potential non-compliance with MNES-SSMP requirements is identified. External auditing will be undertaken in accordance with approval conditions and where directed by the Minister.

The effectiveness of actions within this MNES-SSMP will be reviewed two years after approval and implementation, and the MNES-SSMP will be updated to include additional or revised actions where necessary. Thereafter, the MNES-SSMP will be reviewed every two years and immediately prior to the Project decommissioning phase.

These reviews will also consider available monitoring data to assess the effectiveness of the management measures and corrective actions. All monitoring data will be reviewed by suitably qualified ecologists and analysed using appropriate analytical methods to identify any non-compliance with the actions.



8. RISK ASSESSMENT

A risk assessment was undertaken using the DCCEW risk assessment process to evaluate the risks associated with failure to achieve the management objectives of this MNES-SSMP for mitigating impacts on MNES significant species and communities.

For each identified risk, the risk level has been determined using the qualitative measures of likelihood and consequence, as defined in the *Commonwealth's Environmental Management Plan Guidelines 2014* (Department of the Environment, 2014)

The consequence and likelihood of each risk were assessed following implementation of the management and mitigation measures, being the control measures, in order to determine the residual risk rating presented in Table 9.

The likelihood and consequence risk levels are defined below.

For the purposes of this risk assessment, the risk levels are defined as follows:

- Severe: Unacceptable risk that must not proceed until suitable and comprehensive control measures have been adopted to reduce the level of risk.
- High: Moderate to critical consequences. Works should not proceed without considerations of additional actions to minimising the risk.
- Medium: Acceptable with formal review. Medium level risks require active monitoring due to the level of risk being acceptable.
- Low: Acceptable with active management not considered required.

Qualitative Measures of Likelihood

Highly Likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the Project
Possible	Might occur during the life of the Project
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances

Qualitative Measures of Consequences

Minor	Minor risk of failure to achieve the MNES-SSMPs objectives. Results in short term delays to achieving plan objectives, implementing low cost, well characterised corrective actions.
Moderate	Moderate risk of failure to achieve the MNES-SSMPs objectives. Results in short term delays to achieving plan objectives, implementing well characterised, high cost/effort corrective actions
High	High risk of failure to achieve the MNES-SSMPs objectives. Results in medium-long term delays to achieving plan objectives, implementing uncertain, high cost/effort corrective actions.
Major	The MNES-SSMPs objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies.
Critical	The MNES-SSMPs objectives are unable to be achieved, with no evidenced mitigation strategies.



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



Table 9
Risk Analysis

Risk	Initial Risk Rating			Actions to Minimise Risk	Remedial Actions if Risks Occurs	Residual Risk Rating		
	Likelihood	Consequence	Level			Likelihood	Consequence	Level
Limit or avoid loss of MNES significant species and communities and/or habitat for MNES significant species and communities.	Possible	Moderate	Medium	- Infrastructure to be sited in accordance with State and Commonwealth approval conditions. - Disturbance limits, exclusion areas and retained habitat to be clearly delineated using fencing, barricading and signage prior to works commencing. - Exclusion areas to be clearly shown on all operational and management plans and drawings, with GIS shapefiles provided to relevant personnel and contractors. - Permanent water sources to be retained outside disturbance limits and clearly identified on plans and in the field. - All personnel and contractors to receive site inductions, toolbox talks and site information sheets regarding sensitive environmental values and clearing restrictions. - An internal Permit to Disturb system to be implemented to ensure all clearing is authorised prior to disturbance. - Routine inspections of disturbance boundaries to be undertaken by the EO. - Temporary stockpiles, laydown areas, access routes and ancillary infrastructure to be located in cleared areas where practicable and not within MNES significant species or community habitat. - Clearing activities to be timed, where practicable, to avoid key breeding periods. - Pre-clearance surveys to be undertaken by a suitably qualified ecologist within 48 hours prior to clearing. - A FSC to be present during clearing activities. - Clearing to be undertaken progressively and directed away from retained vegetation. - Hollow-bearing trees and other habitat features to be inspected, salvaged or relocated where practicable in accordance with approved fauna management procedures.	- Investigate the cause and extent of any unauthorised clearing or habitat loss. - Cease works in the affected area until corrective actions are identified and implemented. - Review disturbance boundary controls, signage, fencing, GIS information and contractor induction processes. - Rehabilitate affected areas in accordance with the PRCP where practicable. - Review fauna management procedures and implement additional controls where required. - Notify the relevant regulator where required under approval conditions. - Provide additional offsets if required by the Commonwealth Minister or delegate.	Unlikely	Moderate	Low
Degradation of retained MNES significant species and community habitat adjacent to the Project area and mining areas	Possible	Moderate	Medium	- Retained MNES significant species and community habitat adjacent to the Disturbance area to be clearly delineated on plans and in the field. - Site access to be restricted to designated access tracks only. - Signage, including speed limits, to be erected prior to commencement of the action. - Posters and awareness materials regarding MNES significant species and communities present within the Disturbance area to be displayed in relevant work areas. - All personnel and contractors to receive inductions regarding sensitive habitat and reporting requirements for MNES significant species and communities. - Suspected Greater Glider hollows within the Disturbance area to be salvaged and relocated where practicable under supervision of a FSC. - Selected trees and logs to be salvaged and reused to enhance retained habitat values where practicable. - Where occupied hollows cannot be relocated, replacement nesting structures to be installed using current best practice nest box design. - Dust suppression measures to be implemented in accordance with the Dust Management Plan (Katestone, 2026), CMSHA and CMSHR. - Existing fences to be maintained. - Pest animals and weeds to be managed in accordance with the Weed and Pest Management Plan (Trend Environmental, 2026b). - Light spill to be directed toward the open cut pits and low wattage lighting with spill guards used where practicable.	- Investigate any decline in habitat quality from baseline condition. Review the effectiveness of weed, pest, dust, lighting and access management controls. - Implement additional weed and pest control measures where required. - Replace or augment habitat enhancement measures where these are shown to be ineffective. - Repair fencing, signage or delineation controls where damage or non-compliance is identified. - Update management measures where monitoring indicates habitat values are declining.	Possible	Minor	Low
Spread of existing weed species or establishment of new weed species in MNES significant species and community habitat	Possible	Moderate	Medium	- Weeds to be managed in accordance with the Project's Weed and Pest Management Plan (Trend Environmental, 2026b). - Site induction program to include weed management information for staff, contractors and visitors. - Control measures to target eradication where possible or otherwise reduce weed extent in accordance with Queensland DAF guidance and the <i>Biosecurity Act 2014</i> (Qld). - Weed washdown procedures to apply to vehicles entering site and travelling beyond the site office carpark. - Targeted weed control measures to be implemented within the Project area.	- Upon identification of a new weed species or weed outbreak, implement targeted weed control measures as soon as practicable. - Review weed hygiene and washdown procedures for compliance and effectiveness. - Review timing, frequency and method of weed control programs. - Implement alternative or intensified control measures where required.	Unlikely	Minor	Low
Increase in pest animal abundance or introduction of new pest animal species	Possible	Moderate	Medium	- Pest animals to be managed in accordance with the Project's Weed and Pest Management Plan (Trend Environmental, 2026b). - Appropriate waste management and disposal procedures to be implemented to avoid attracting pest animals.	- Upon becoming aware of increased pest animal activity or a new pest species, implement additional pest control measures. - Review waste management and site hygiene procedures.	Unlikely	Minor	Low



Risk	Initial Risk Rating			Actions to Minimise Risk	Remedial Actions if Risks Occurs	Residual Risk Rating		
	Likelihood	Consequence	Level			Likelihood	Consequence	Level
affecting MNES significant species and community habitat				- A reporting framework to ensure pest animal sightings are recorded. - Site inductions to include information on pest animal risks, reporting requirements and waste management obligations. - Control measures to focus on pest species identified within the Project area, including Cane Toads, Feral Cats, Wild Dogs, House Mice and European Rabbits, with additional species included if detected. - Pest control to use best practice methods such as trapping, shooting, baiting and fencing, as appropriate and in accordance with safety requirements, DAF guidance and the <i>Biosecurity Act 2014</i> (Qld).	- Investigate likely sources of pest animal ingress and rectify where practicable. - Increase the frequency or extent of control measures where monitoring indicates this is necessary.			
Dust deposition adversely affecting habitat for MNES significant species and community during construction and operation	Possible	Minor	Low	- Dust suppression to be undertaken in accordance with the Dust Management Plan (Katestone, 2026). - Vegetation clearing to be staged to minimise areas of disturbed and bare ground. - Disturbed areas to be progressively rehabilitated in accordance with the PRCP. - Overburden to be removed and dumped as soon as reasonably practicable following blasting. - Haul roads and access tracks to be watered regularly • Dust suppression spraying to be used on stockpiles where required. - Grading, dozing and overburden drilling in high dust-generating areas to be limited where practicable. - Speed limits to be enforced.	- Investigate any exceedance of dust deposition criteria or evidence of dust-related habitat degradation. - Review implementation of the Dust Management Plan and compliance with speed limits. - Increase watering, stockpile suppression and other dust control measures where required. - Prioritise rehabilitation or stabilisation of exposed areas contributing to dust generation.	Unlikely	Minor	Low
Noise and vibration impacts to MNES significant species and community habitat exceeding approval criteria	Possible	Minor	Low	- Plant and equipment to be regularly maintained and serviced to minimise machinery noise. - Engine covers to remain closed while equipment is operating. - Blasting to occur only within approved timeframes. - Mining operations to be managed to minimise night-time noise where practicable.	- Investigate any exceedance of approved noise or vibration criteria. - Review equipment maintenance records and site operating practices. - Repair faulty equipment or modify operating procedures where necessary. - Review blasting practices and scheduling if non-compliance is identified.	Unlikely	Minor	Low
Uncontrolled fire caused by Project activities resulting in habitat degradation	Possible	Moderate	Medium	- Fire management for coal mining operations to be implemented in accordance with the CMSHA, CMSHR, Bushfire Management Plan and SHMS. - SOPs for fire response to be included in the SHMS. - Buffers to be maintained around potential ignition sources including plant, machinery, haul roads and mine infrastructure. - Relevant personnel and contractors to be made aware of fire safety requirements prior to site entry. - Fuel loads to be minimised and managed through weed control measures in the Weed and Pest Management Plan (Trend Environmental, 2026b).	- If an uncontrolled fire occurs, undertake an assessment of the extent of impact on MNES significant species and community habitat. - Implement recommended remediation actions as soon as practicable. - Review fire prevention and response procedures within the SHMS. - Inspect and repair fire management infrastructure and buffers as required. - Implement additional fuel load or ignition source controls where necessary.	Unlikely	Moderate	Low
Alteration of riparian MNES significant species and community habitat due to changes in water quality, erosion or hydraulic activity	Possible	Moderate	Medium	- Stormwater management to be undertaken in accordance with approval conditions and the FRREMP. - Site-specific WMP, FRREMP and ESCP to be implemented by suitably qualified personnel. - Required management plans to be implemented to minimise impacts on receiving water quality, sediment mobilisation, erosion and hydrological disturbance. • Maintenance and cleaning of vehicles, plant and equipment not to occur in locations where contaminants may enter receiving waters. - Spills of wastes, contaminants or other materials to be cleaned up as quickly as practicable.	- Investigate any exceedance of receiving water trigger levels, ESCP failure or decline in riparian vegetation condition. - Repair or replace damaged erosion and sediment control measures. - Review implementation of the WMP, REMP and ESCP and strengthen controls where required. - Undertake site stabilisation, erosion repair and water quality protection measures as necessary.	Unlikely	Moderate	Low
Injury or mortality of MNES significant species due to Project activities such as clearing or vehicle strike	Possible	Moderate	Medium	- Environmental awareness training to be provided to all workers during site induction, including identification of MNES significant species and communities, and required protective measures. - Pre-clearance surveys to be undertaken within 48 hours prior to clearing. - At least one qualified FSC to be present during clearing activities. - Injured fauna to be taken to a wildlife carer or veterinarian. - Day-time speed limits of 60 km/h to apply on internal roads at potentially sensitive locations for fauna including haul roads. - Vehicle access to restricted areas and exclusion zones to be limited to critical site-specific activities only. - Injured fauna encountered during construction or operation to be taken to a wildlife carer, wildlife facility or veterinarian within 24 hours where safe to do so.	- If injury or mortality of MNES significant species occurs, cease works in the immediate area where necessary and safe to do so. - Notify the EO immediately and arrange fauna assessment, treatment or relocation by a qualified person. - Record the incident and investigate the cause. - Review clearing procedures, speed controls, exclusion zones and fauna management measures. - Implement additional mitigation measures where required to reduce recurrence.	Unlikely	Moderate	Low



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Map 1 Project Locality

Map 2 Flora Survey Effort

Map 3 Fauna Survey Effort

Map 4 Threatened Ecological Communities

Map 5 Squatter Pigeon habitat and presence

Map 6 Koala habitat and presence

Map 7 Greater Glider habitat and presence

Map 8 Ornamental Snake habitat and presence



APPENDIX

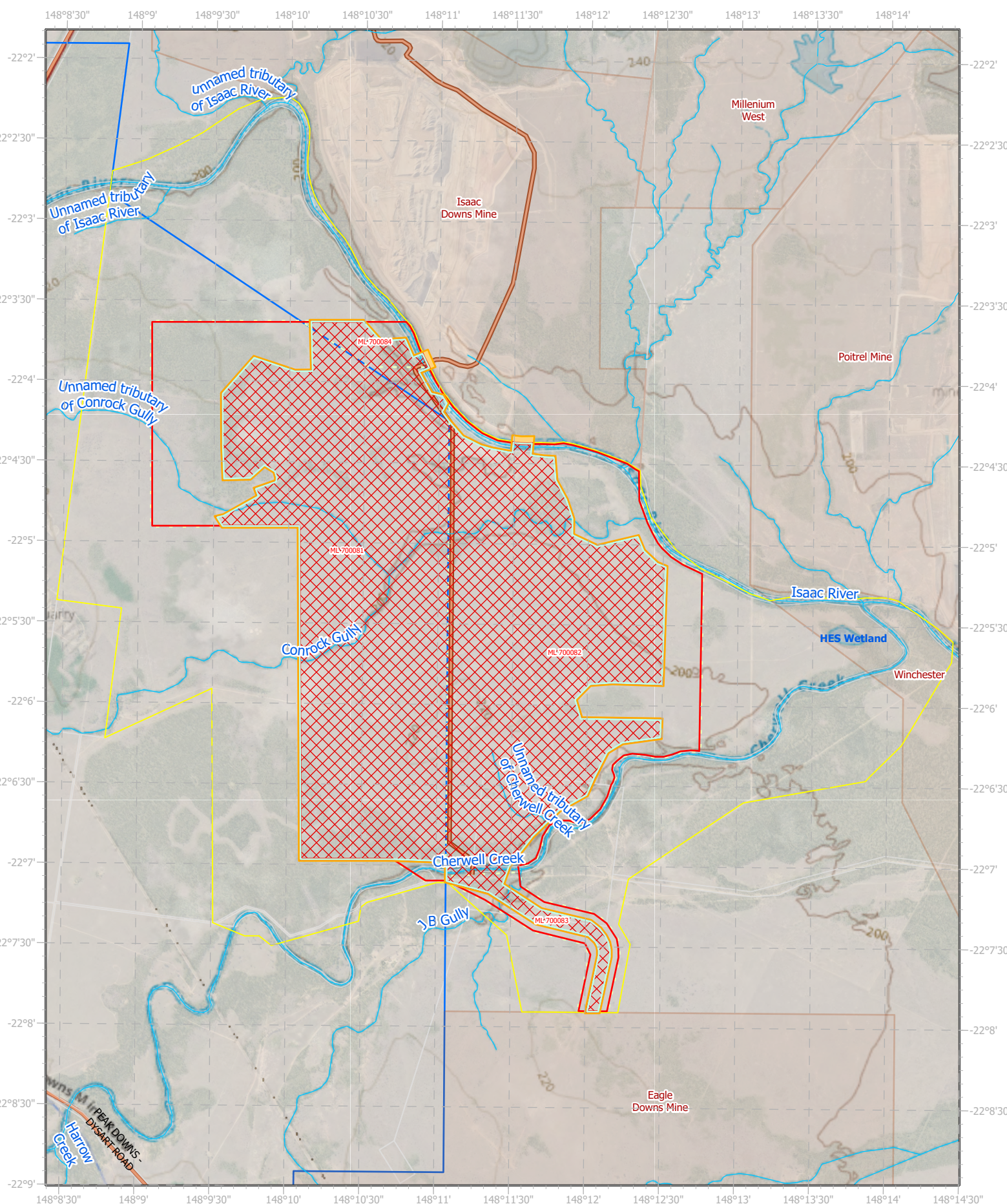
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MAPS



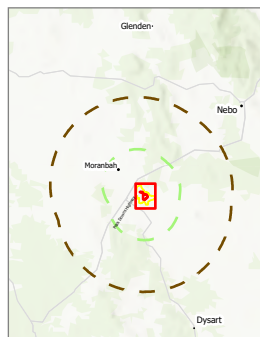
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Project Locality



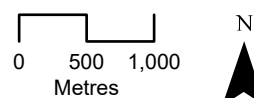
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- Disturbance area on Project MLs
- Additional disturbance area
- EPBC impact area
- EIS Impact area
- Area of interest
- Region
- Land parcel
- MDL permit granted
- ML permit granted
- ML access application
- ML permit application
- Watercourses
- State controlled road



Isaac Downs Extension MNES Significant Species Management Plan

Map 1 - Project Locality



Scale: 1:56,000
Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved: EK
Date: 28 Feb 2026

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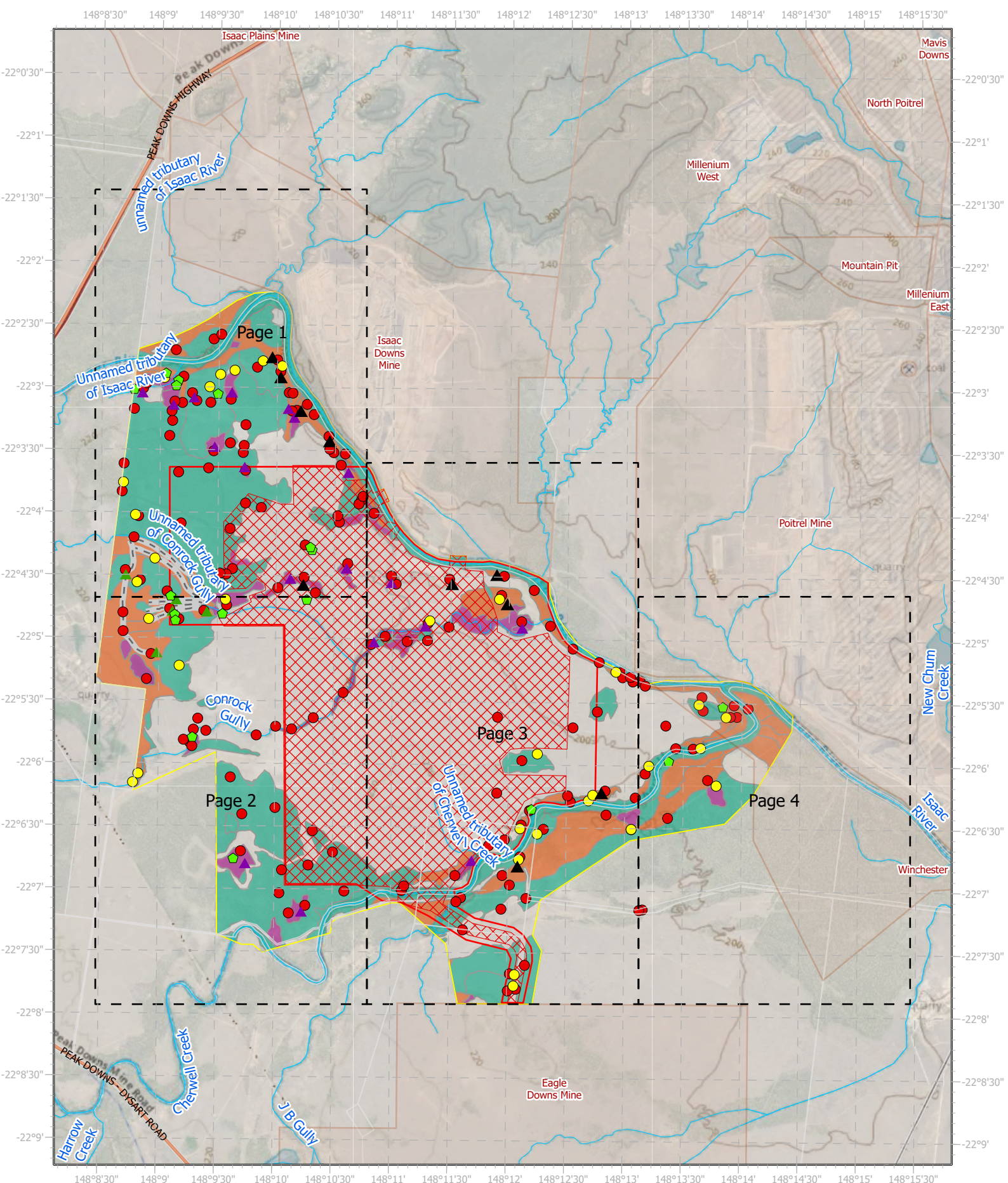
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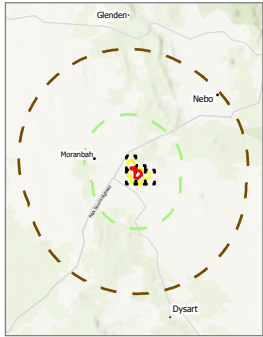
MAP 2

Flora Survey Effort

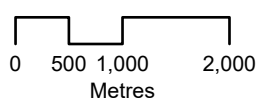


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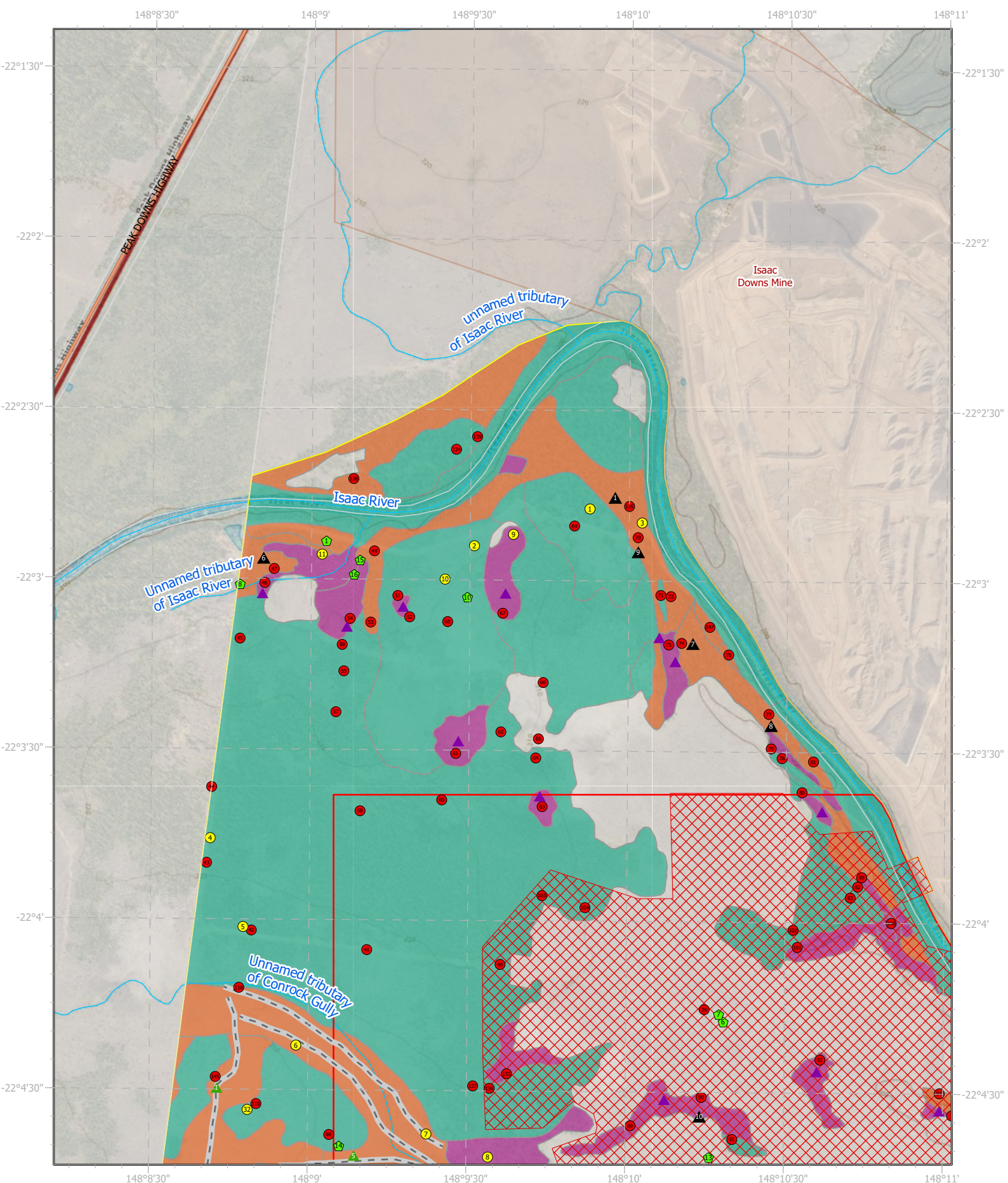
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- Survey area
- Disturbance area
- ML permit granted
- Watercourses
- State controlled road
- Random Meanders
- Habitat Quality Assessment sites
- Brigalow TEC Verification
- Poplar box TEC Verification sites
- Natural Grasslands TEC Verification sites
- Weed Detection sites
- Vegetation assessment sites
- Ground-truthed Regional Ecosystems**
 - Category A or B containing endangered
 - Category A or B containing of concern
 - Category A or B that is of least concern



**Isaac Downs Extension
MNES Significant Species
Management Plan
Map 2 - Flora Survey Effort**
Page 1 of 5

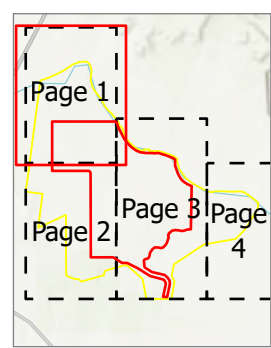


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Legend

- Project area
 - Survey area
 - Disturbance area
 - ML permit granted
 - Watercourses
 - State controlled road
 - Random Meanders
 - Habitat Quality Assessment sites
 - BrigalowTEC Verification
 - Poplar box TEC Verification sites
 - Natural Grasslands TEC Verification sites
 - Weed Detection sites
 - Vegetation assessment sites
- Ground-truthed Regional Ecosystems**
- Category A or B containing endangered
 - Category A or B containing of concern
 - Category A or B that is of least concern



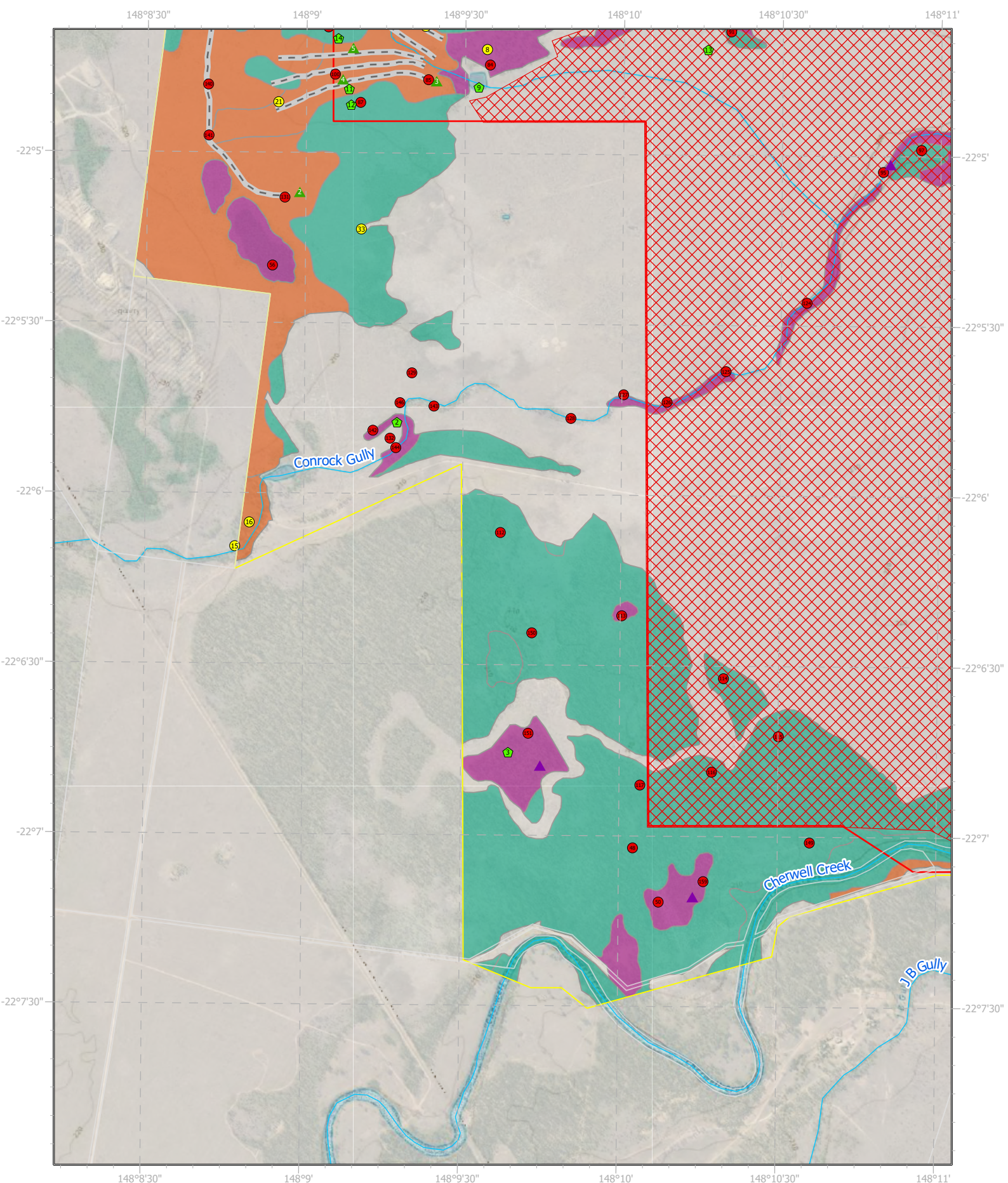
**Isaac Downs Extension
MNES Significant Species
Management Plan**
Map 2 - Flora Survey Effort
Page 2 of 5

Scale: 1:26,000
Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved: EK
Date: 23 Feb 2026



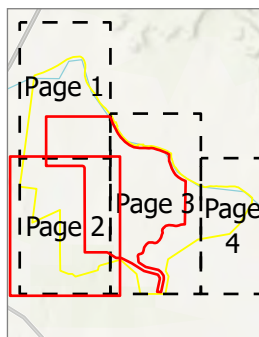
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Legend

- Project area
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 - State controlled road
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 - Weed Detection sites
 - Vegetation assessment sites
- ### Ground-truthed Regional Ecosystems
- Category A or B containing endangered
 - Category A or B containing of concern
 - Category A or B that is of least concern



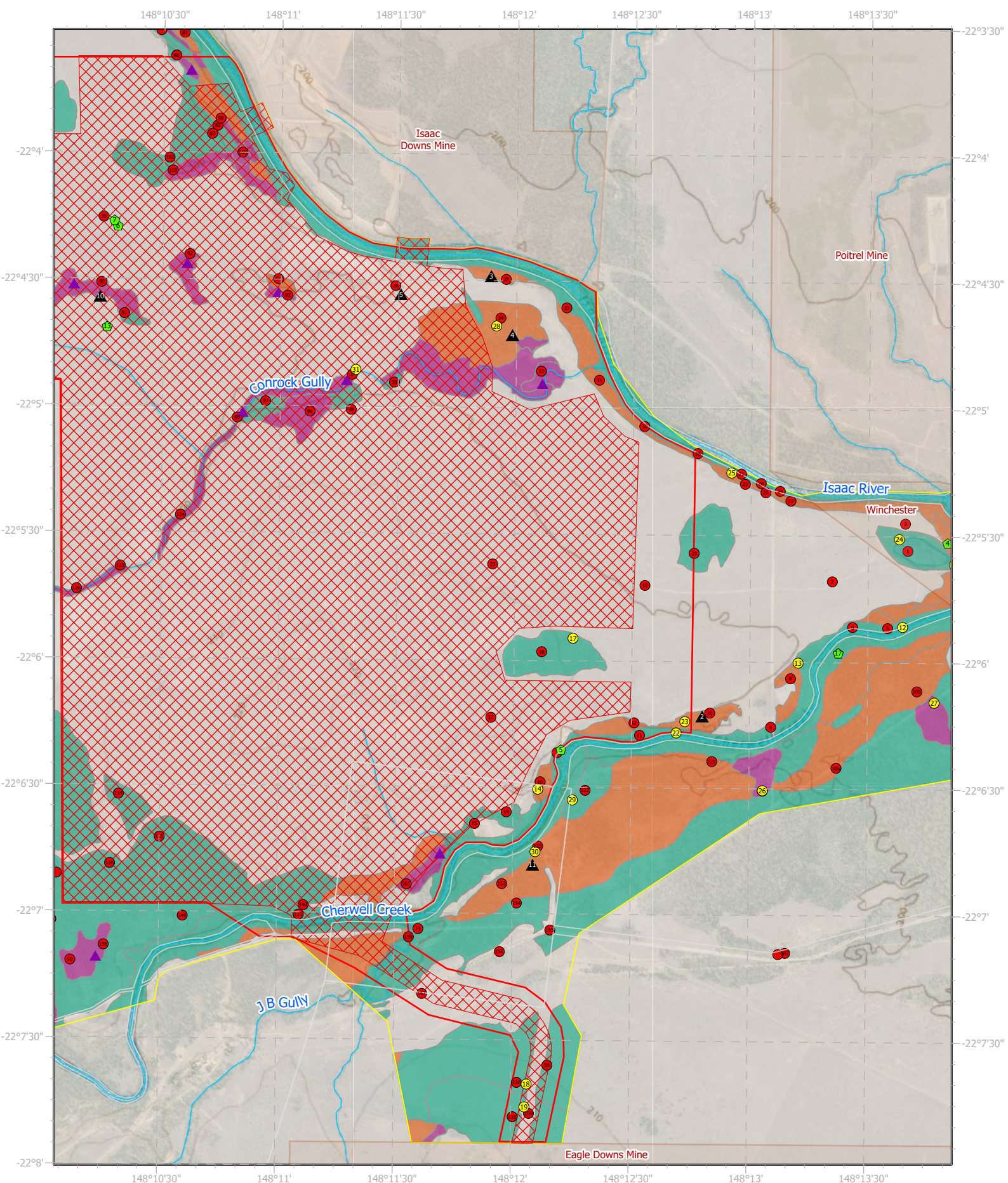
Isaac Downs Extension MNES Significant Species Management Plan Map 2 - Flora Survey Effort Page 3 of 5

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Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved: EK
Date: 23 Feb 2026



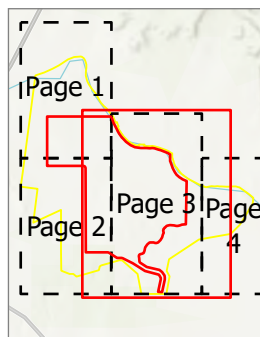
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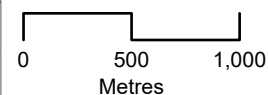


Legend

- Project area
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**Isaac Downs Extension
MNES Significant Species
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Map 2 - Flora Survey Effort
Page 4 of 5

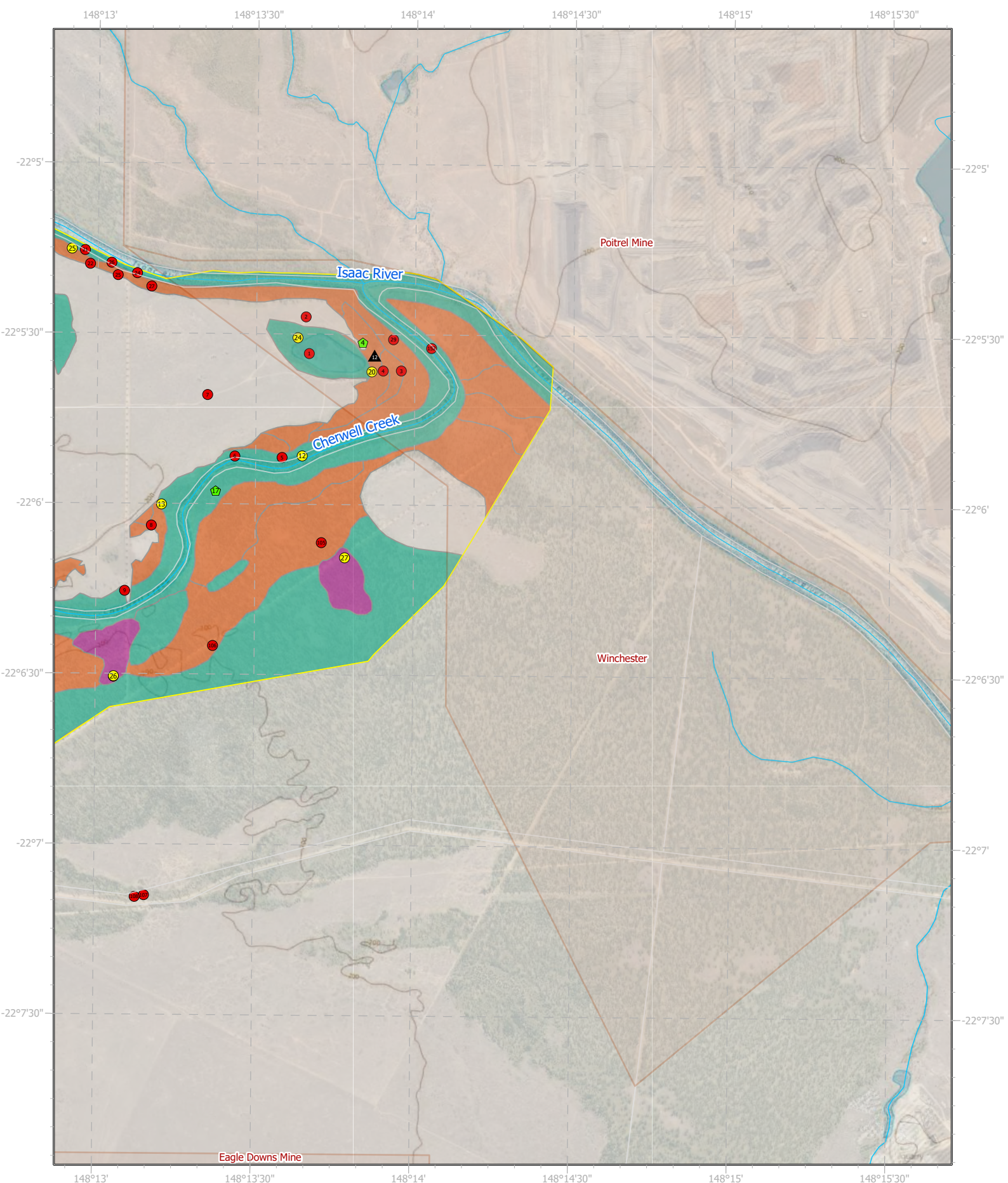


Scale: 1:35,000
Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved: EK
Date: 23 Feb 2026



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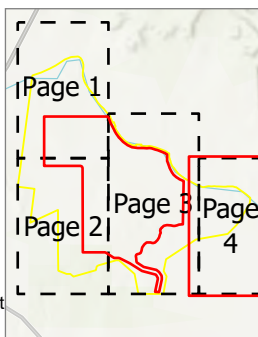
Legend

- Project area
- Survey area
- Disturbance area
- ML permit granted
- Watercourses
- State controlled road
- Random Meanders
- Habitat Quality Assessment sites

- Poplar box TEC Verification sites
- Weed Detection sites
- Vegetation assessment sites

Ground-truthed Regional Ecosystems

- Category A or B containing endangered
- Category A or B containing of concern
- Category A or B that is of least concern



Isaac Downs Extension MNES Significant Species Management Plan Map 2 - Flora Survey Effort Page 5 of 5

Scale: 1:26,000
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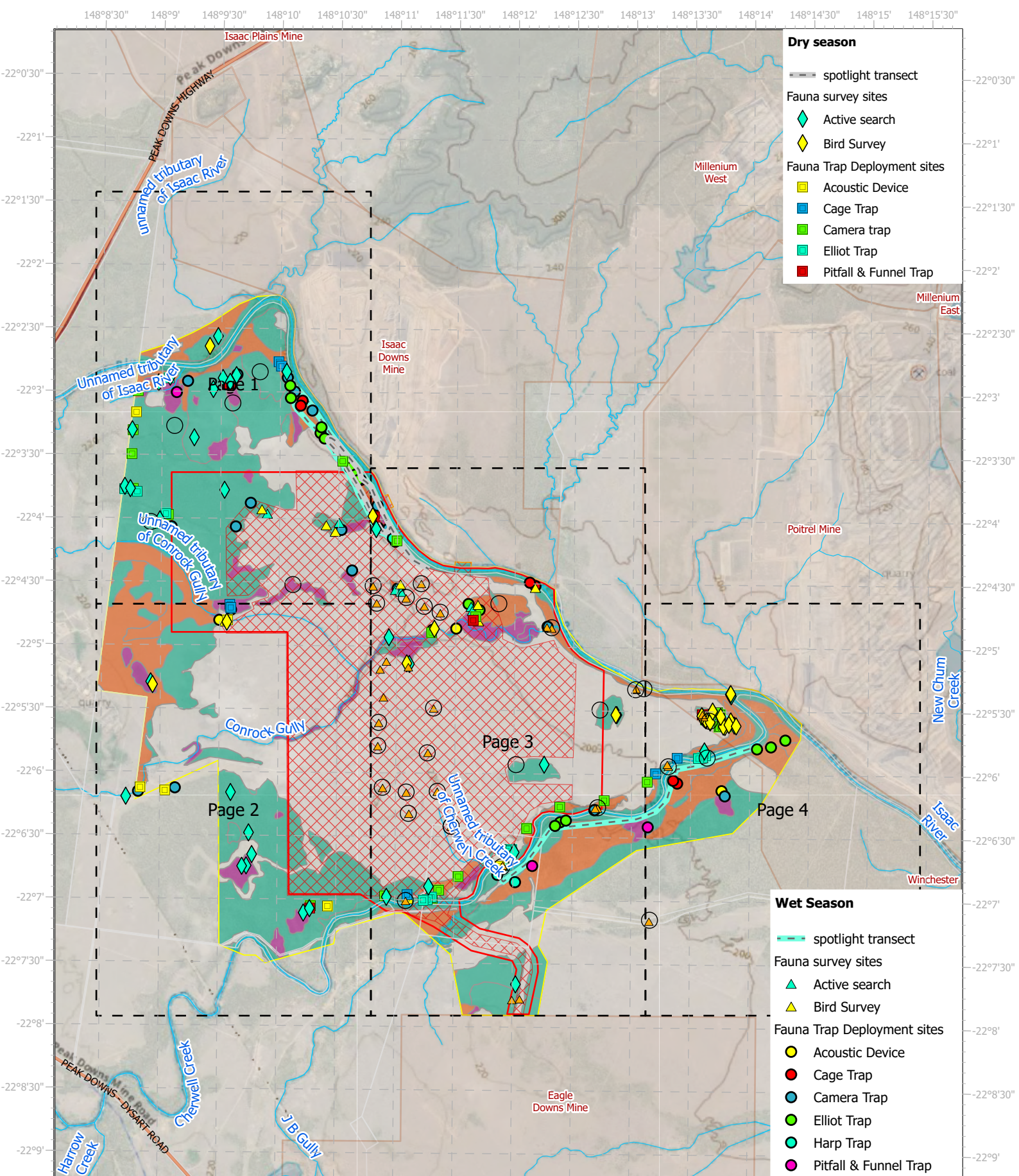
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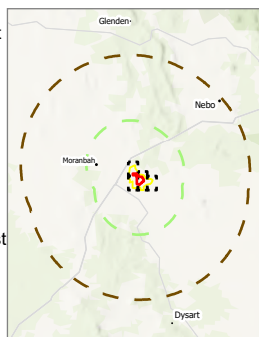
MAP 3

Fauna Survey Effort



Legend

- Project area
- Survey area
- Disturbance area
- ML permit granted
- Watercourses
- State controlled road
- Breeding Place Survey sites
- Habitat suitability assessment sites
- Ground-truthed Regional Ecosystems**
 - Category A or B containing endangered
 - Category A or B containing of concern
 - Category A or B that is of least concern



Isaac Downs Extension MNES Significant Species Management Plan

Map 3 - Fauna Survey Effort
Page 1 of 5

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Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved: EK
Date: 25 Feb 2026

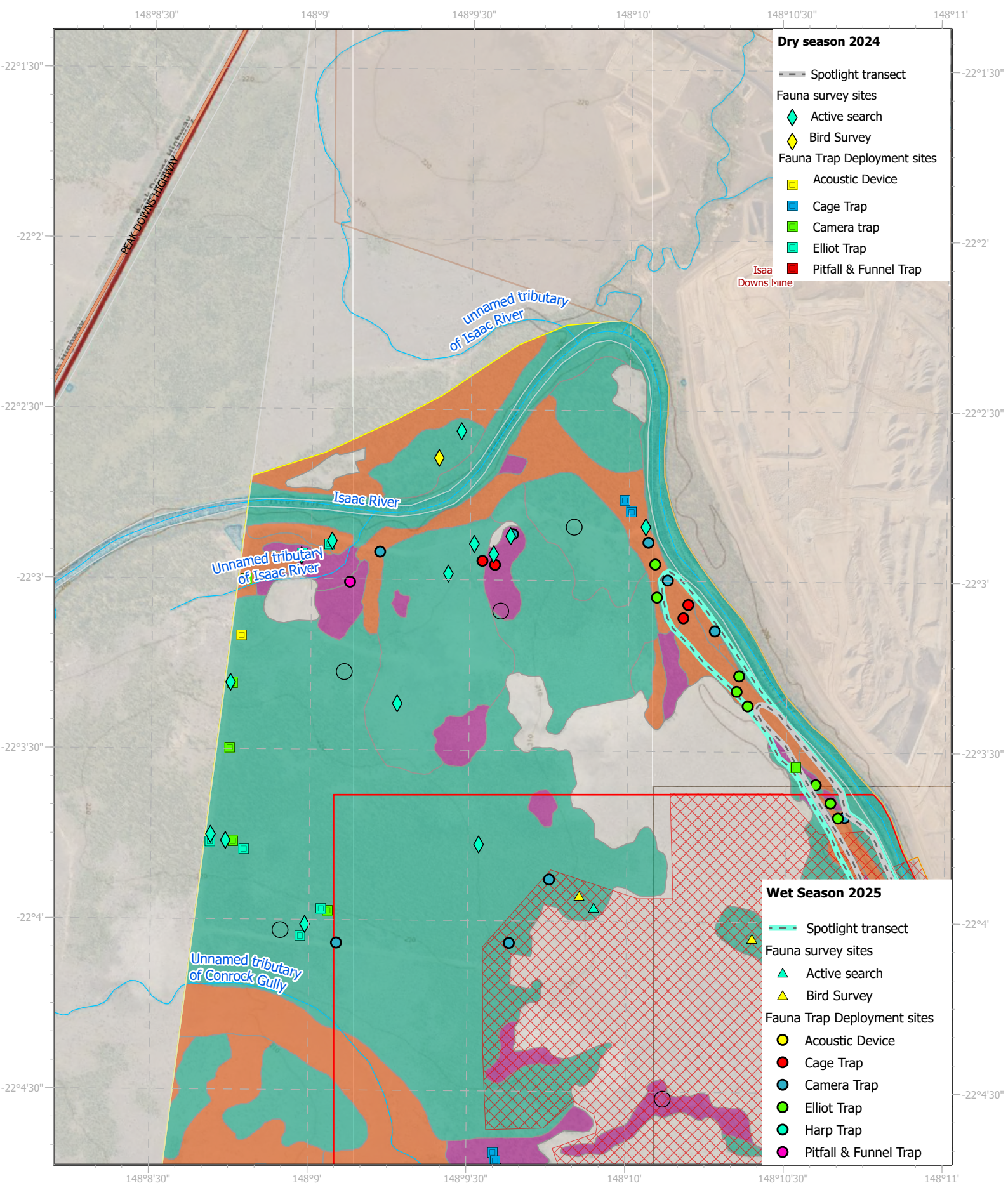


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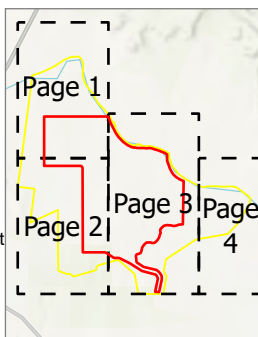
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Legend

- Project area
- Survey area
- Disturbance area
- ML permit granted
- Watercourses
- State controlled road
- Breeding Place Survey sites

- Habitat suitability assessment sites
- Ground-truthed Regional Ecosystems**
 - Category A or B containing endangered
 - Category A or B containing of concern
 - Category A or B that is of least concern



Isaac Downs Extension MNES Significant Species Management Plan Map 3 - Fauna Survey Effort Page 2 of 5

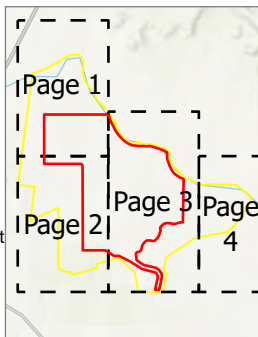
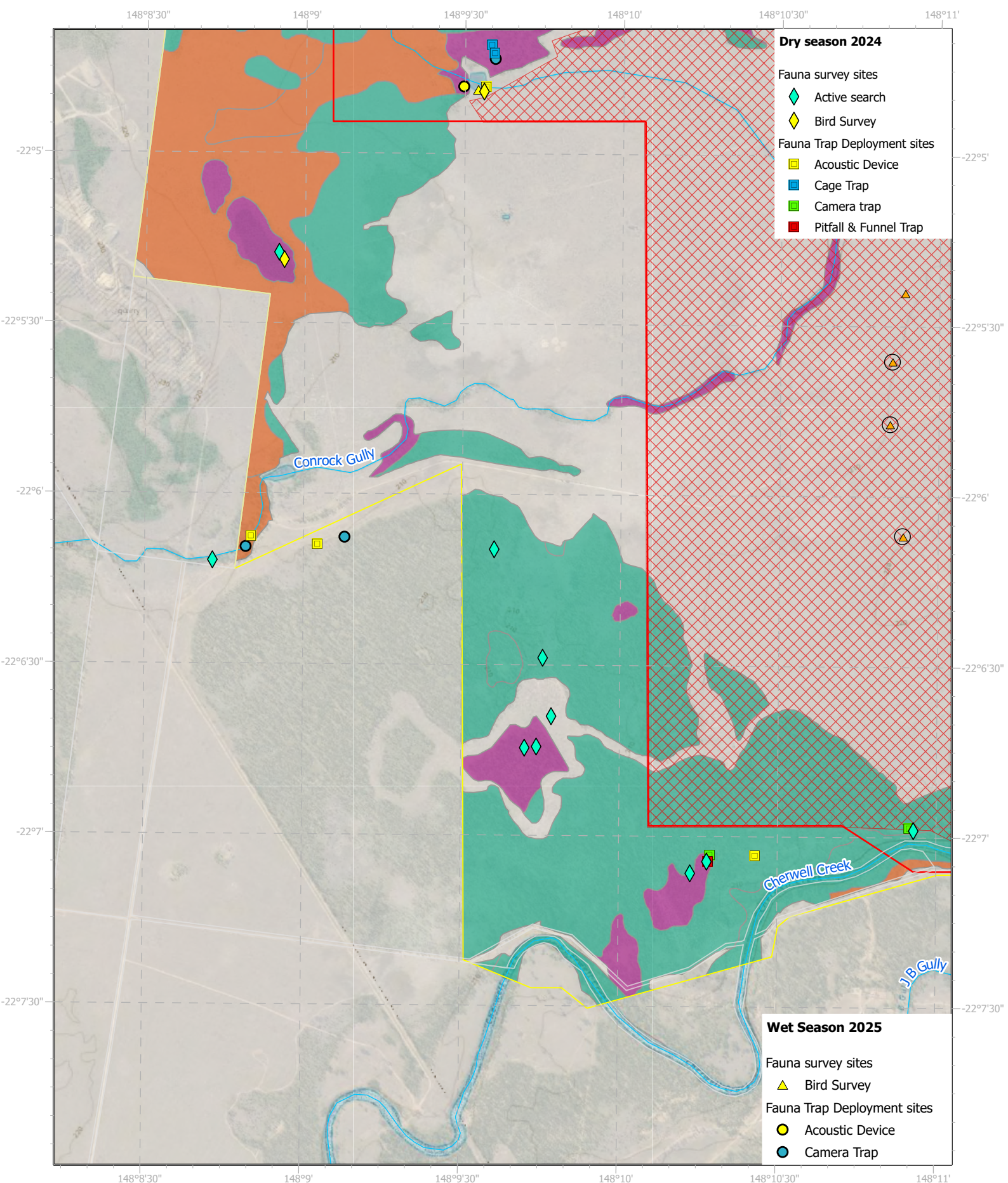
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Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved: EK
Date: 24 Feb 2026

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Isaac Downs Extension Mnes Significant Species Management Plan

Map 3 - Fauna Survey Effort
Page 3 of 5

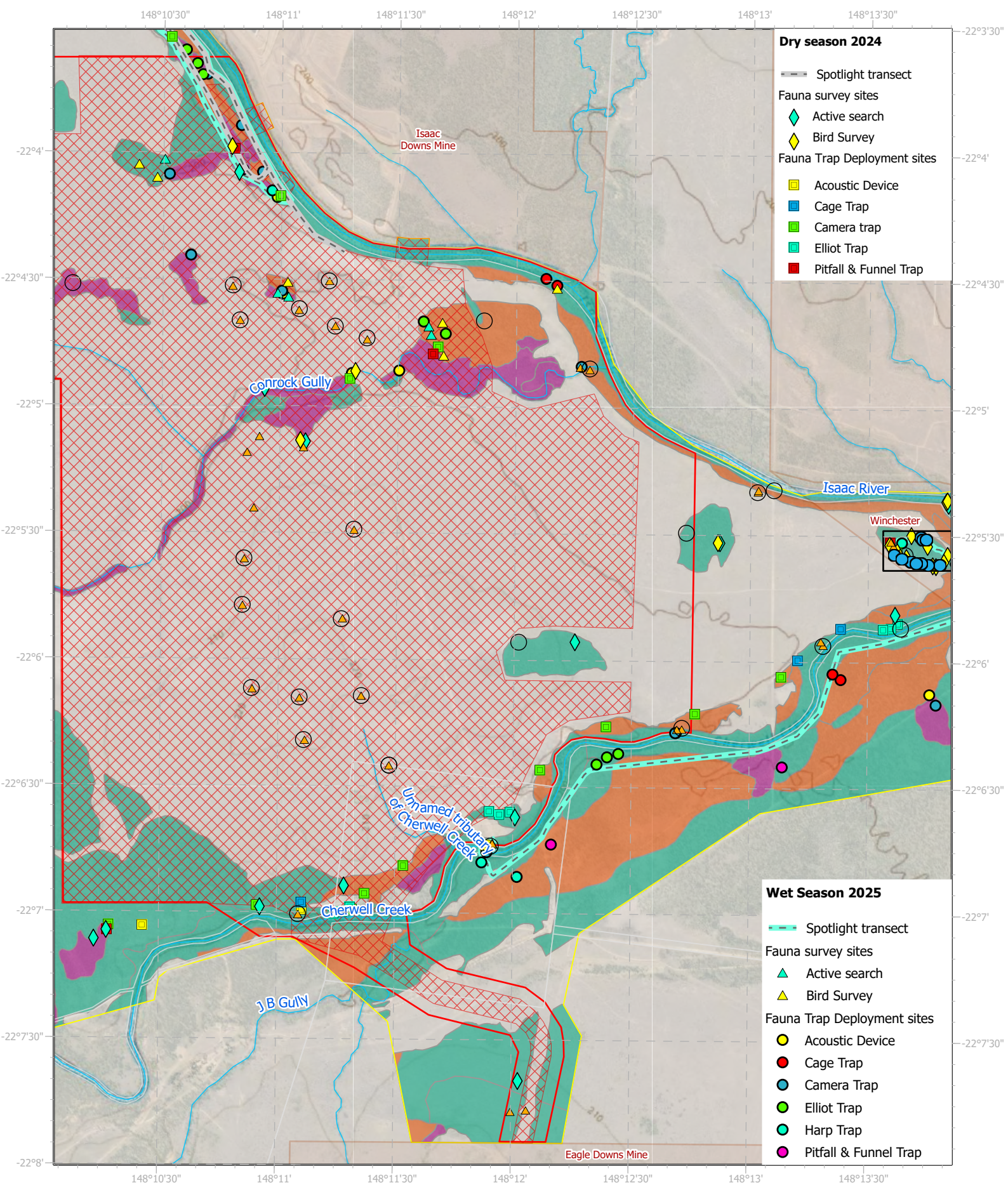
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Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved: EK
Date: 24 Feb 2026

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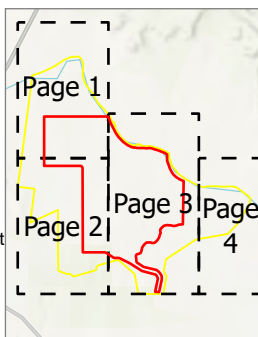
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Legend

- Project area
- Survey area
- Disturbance area
- ML permit granted
- Watercourses
- State controlled road
- Breeding Place Survey sites

- Habitat suitability assessment sites
- Ground-truthed Regional Ecosystems
 - Category A or B containing endangered
 - Category A or B containing of concern
 - Category A or B that is of least concern



Isaac Downs Extension MNES Significant Species Management Plan

Map 3 - Fauna Survey Effort
Page 4 of 5

0 500 1,000
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Scale: 1:35,000
Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved: EK
Date: 24 Feb 2026

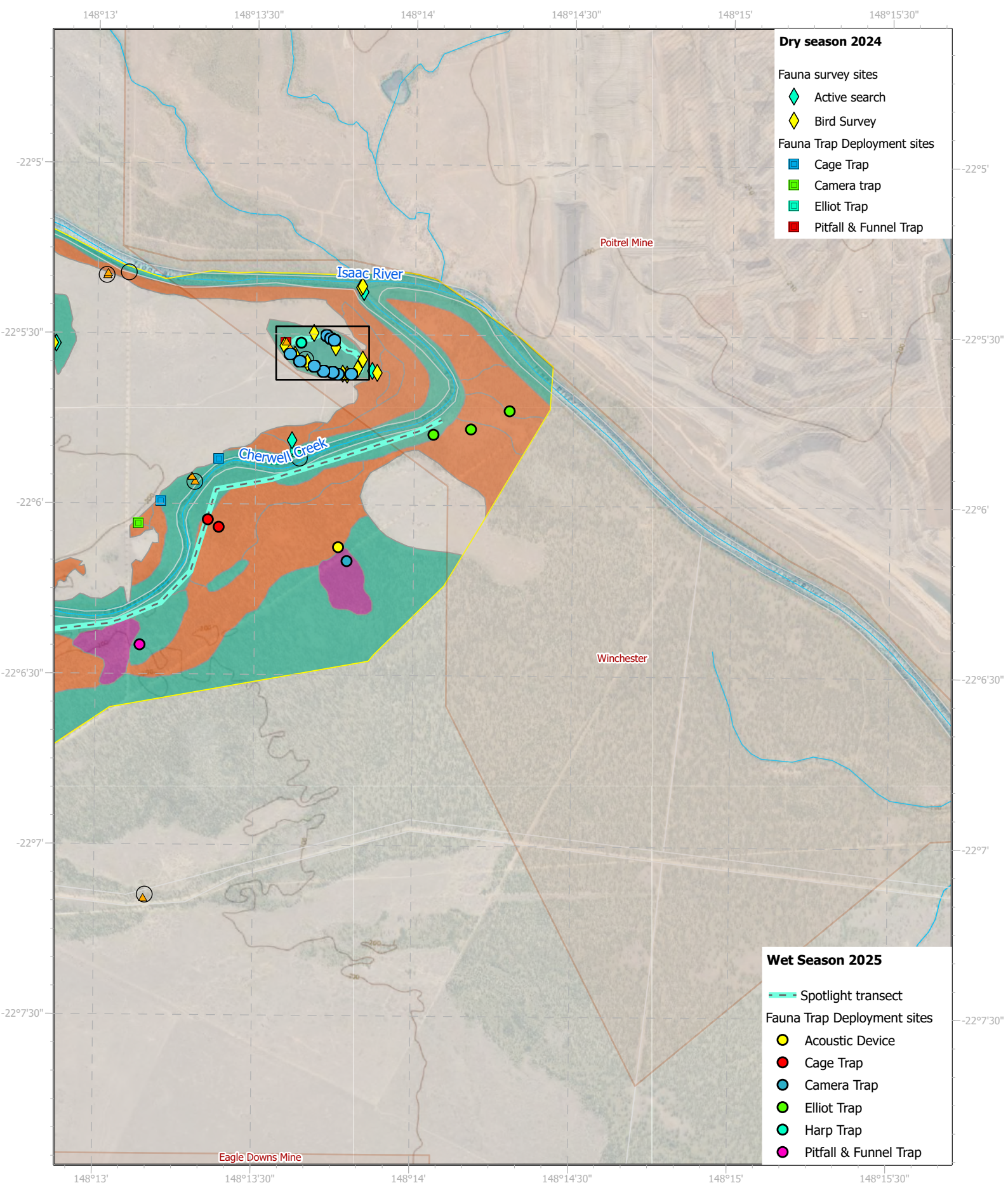


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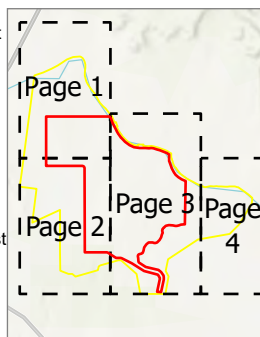
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Legend

- Project area
- Survey area
- Disturbance area
- ML permit granted
- Watercourses
- State controlled road
- Breeding Place Survey sites

- Habitat suitability assessment sites
- Ground-truthed Regional Ecosystems**
 - Category A or B containing endangered
 - Category A or B containing of concern
 - Category A or B that is of least concern



Isaac Downs Extension MNES Significant Species Management Plan
 Map 3 - Fauna Survey Effort
 Page 5 of 5

Scale: 1:26,000
 Coordinate System: GDA2020 MGA Zone 55
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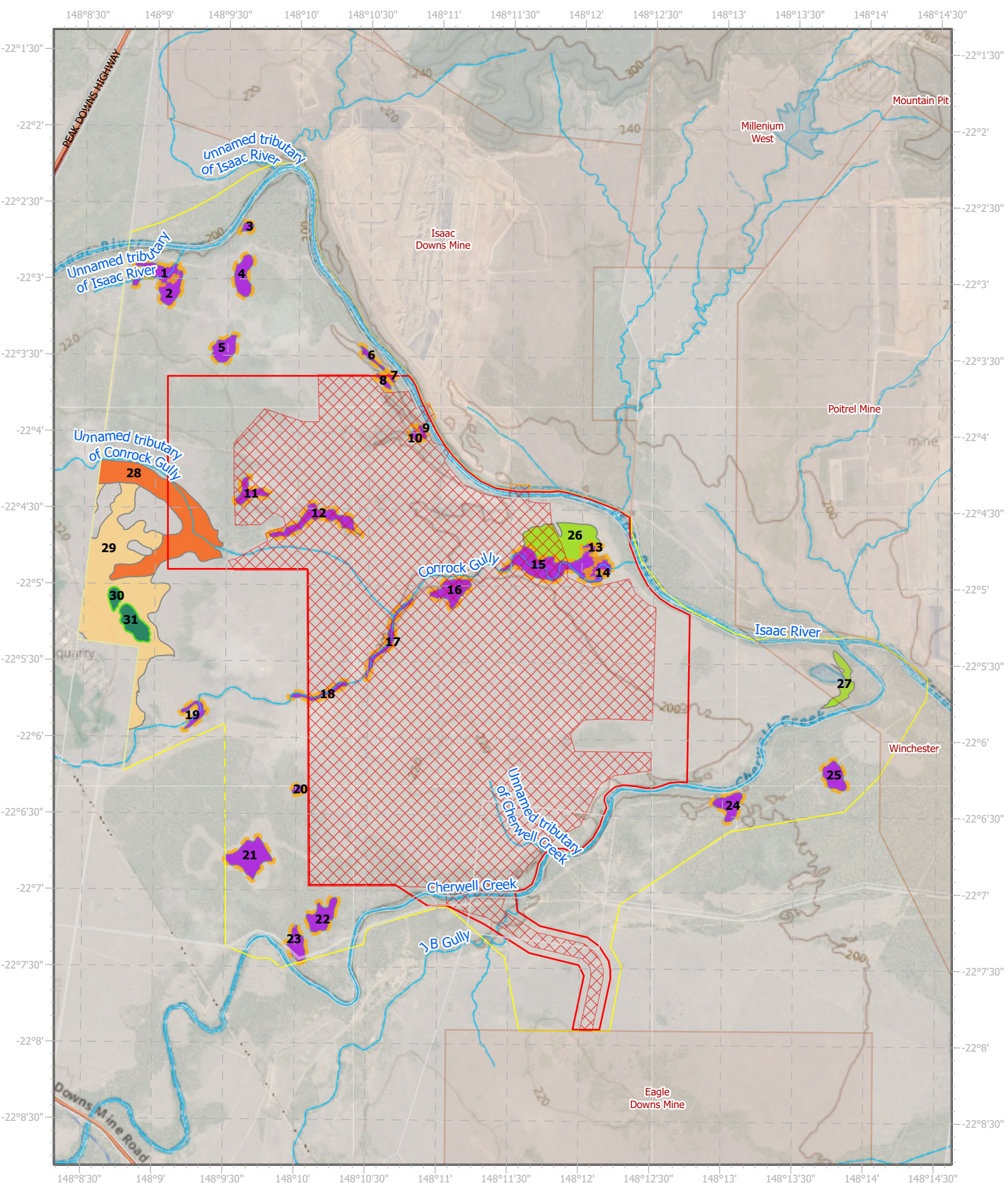
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MAP 4

Threatened Ecological Communities



Legend

- Project area
- Survey area
- Disturbance area
- ML permit granted
- Watercourses
- State controlled road

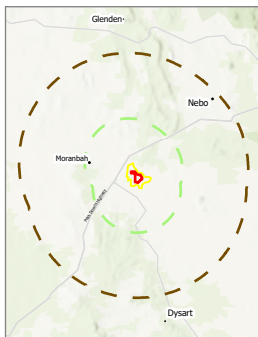
Threatened Ecological communities

- Brigalow (A. harpophylla dominant and co-dominant) [Good condition] (Patch ID)
- Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin [Best Quality] (Patch ID)

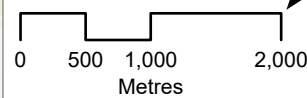
- Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin [Good Quality] (Patch ID)
- Poplar box woodland on alluvial plain [Category C] (Patch ID)
- Semi-evergreen Vine Thickets of the Brigalow Belt (North and South) and Nandewar Bioregions [No category] (Patch ID)

Key habitat terms (DCCEEW)

- Critical habitat for Brigalow (A. harpophylla dominant and co-dominant)
- Critical habitat for Semi-evergreen Vine Thickets of the Brigalow Belt (North and South) and Nandewar Bioregions



**Isaac Downs Extension
MNES Significant Species
Management Plan
Map 4 - Threatened
Ecological Communities**



Scale: 1:58,000

Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved : EK
Date: 04 Mar 2026



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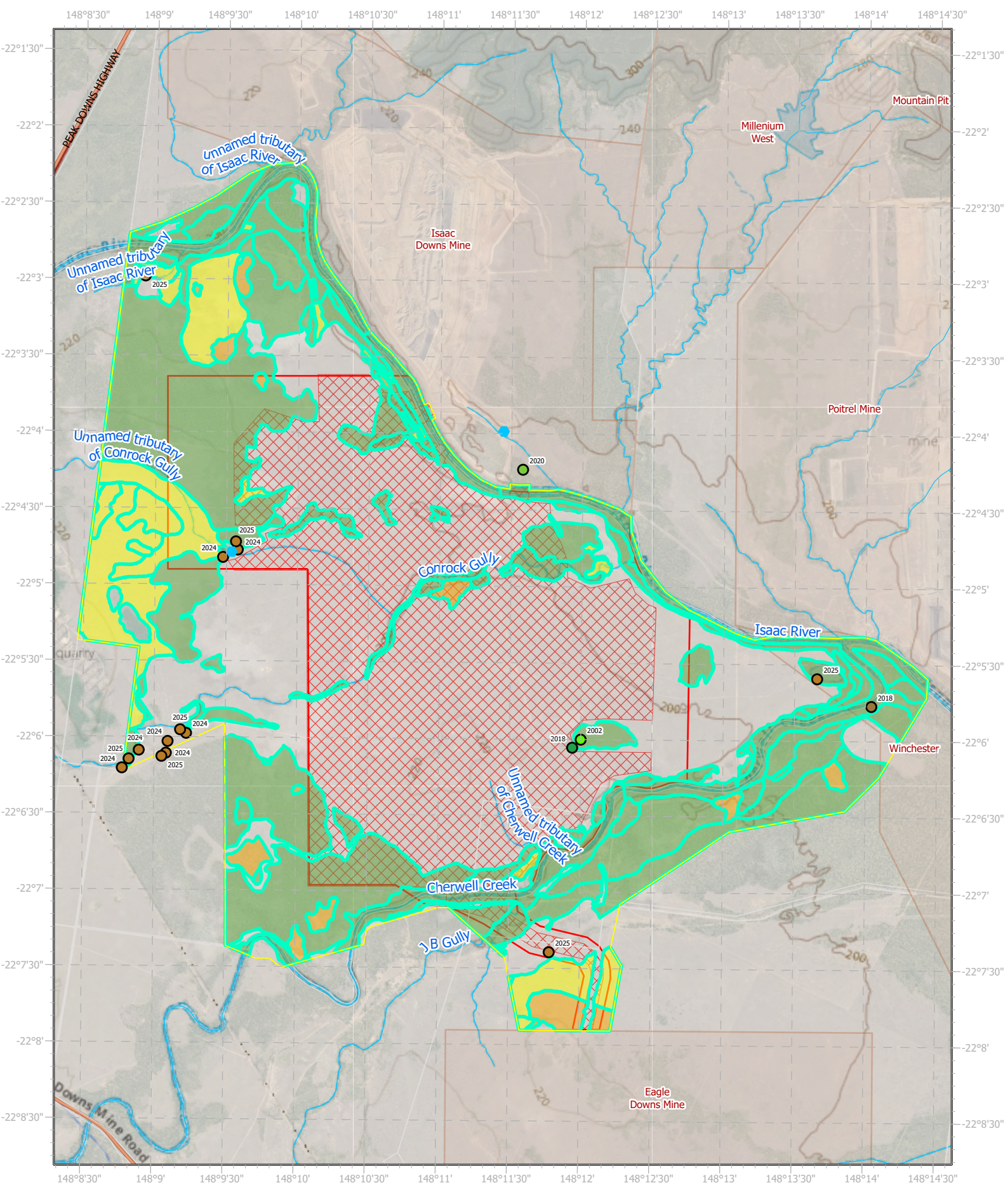
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MAP 5

Squatter Pigeon Habitat and Presence

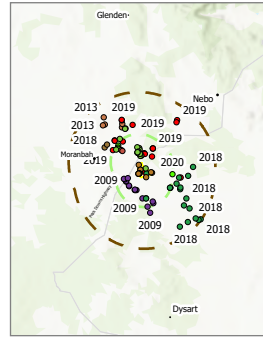


Legend

- Project area
- Survey area
- Disturbance area
- ML permit granted
- Watercourses
- Dams
- Key defining terms (DCCEEW)**
- Critical habitat for the survival of the species
- Squatter Pigeon habitat**
- Breeding habitat
- Foraging habitat
- Dispersal habitat

Threatened Fauna Observations

- Squatter Pigeon (ALA)
- Squatter Pigeon (URS)
- Squatter Pigeon (BAAM)
- Squatter Pigeon (BirdLife Australia)
- Squatter Pigeon (DES)
- Squatter Pigeon (DPM Envirosciences)
- Squatter Pigeon (EcoSM)
- Squatter Pigeon (Ecotone Environmental Services)
- Squatter Pigeon (Trend Environmental)



Isaac Downs Extension
MNES Significant Species
Management Plan
Map 5 - Squatter Pigeon
habitat and detected
presence

Scale: 1:58,000
Coordinate System: GDA2020 MGA Zone 55
Prepared: MG Checked: EK Approved : EK
Date: 24 Feb 2026

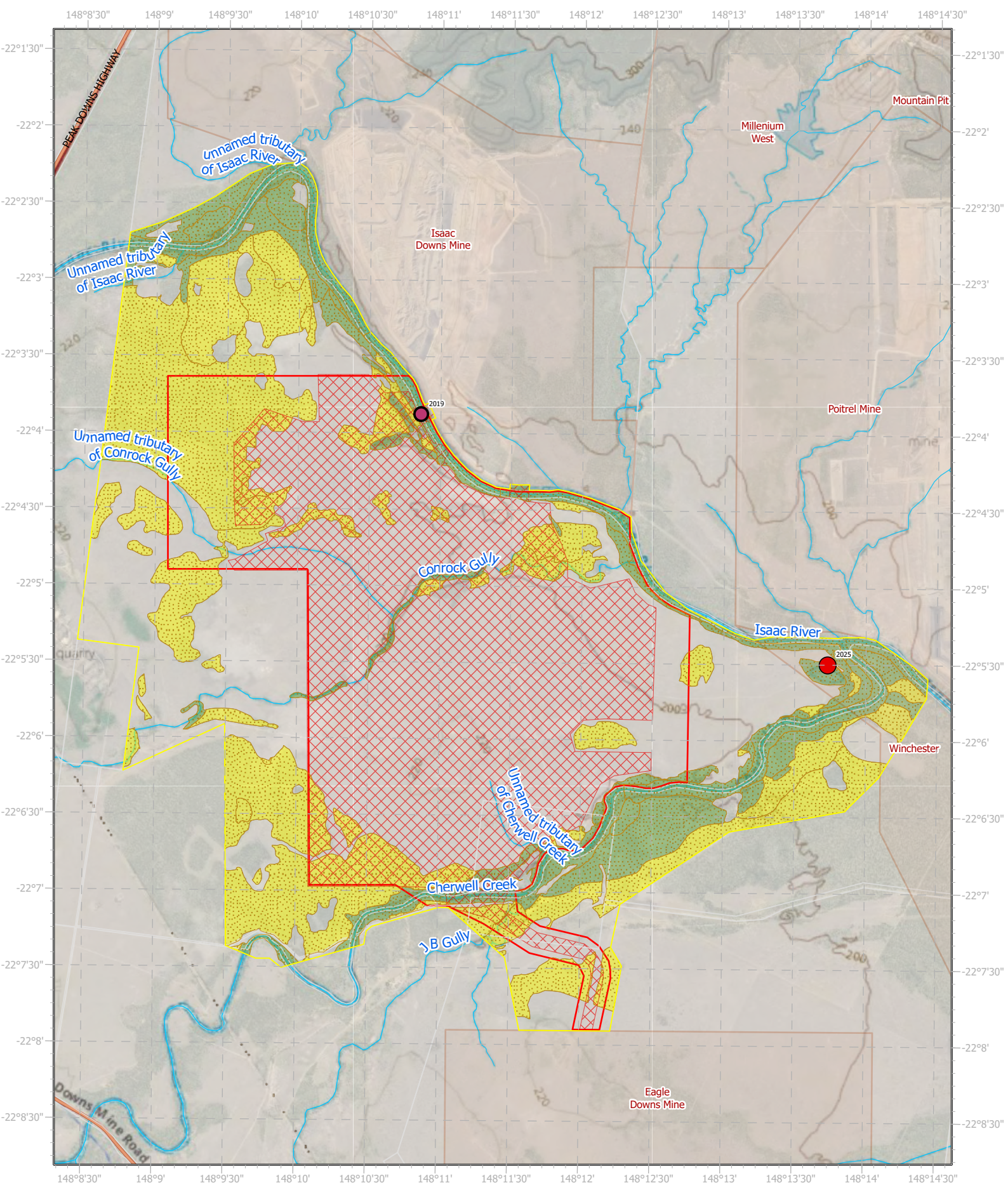


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MAP 6

Koala Habitat and Presence



Legend

- Project area
- Survey area
- Disturbance area
- ML permit granted
- Watercourses

Koala habitat

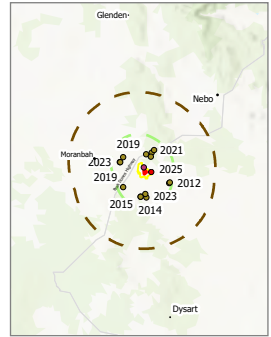
- Breeding habitat
- Foraging habitat

Threatened Fauna Observations

- Koala (ALA)
- Koala (Trend Environmental)
- Koala (EcoSM)

Key defining terms (DCCEEW)

- Critical habitat for the survival of the Koala



**Isaac Downs Extension
MNES Significant Species
Management Plan**

**Map 6 - Koala habitat
and detected presence**

0 500 1,000 2,000
Metres

Scale: 1:58,000

Coordinate System: GDA2020 MGA Zone 55

Prepared: MG Checked: EK Approved: EK

Date: 24 Feb 2026



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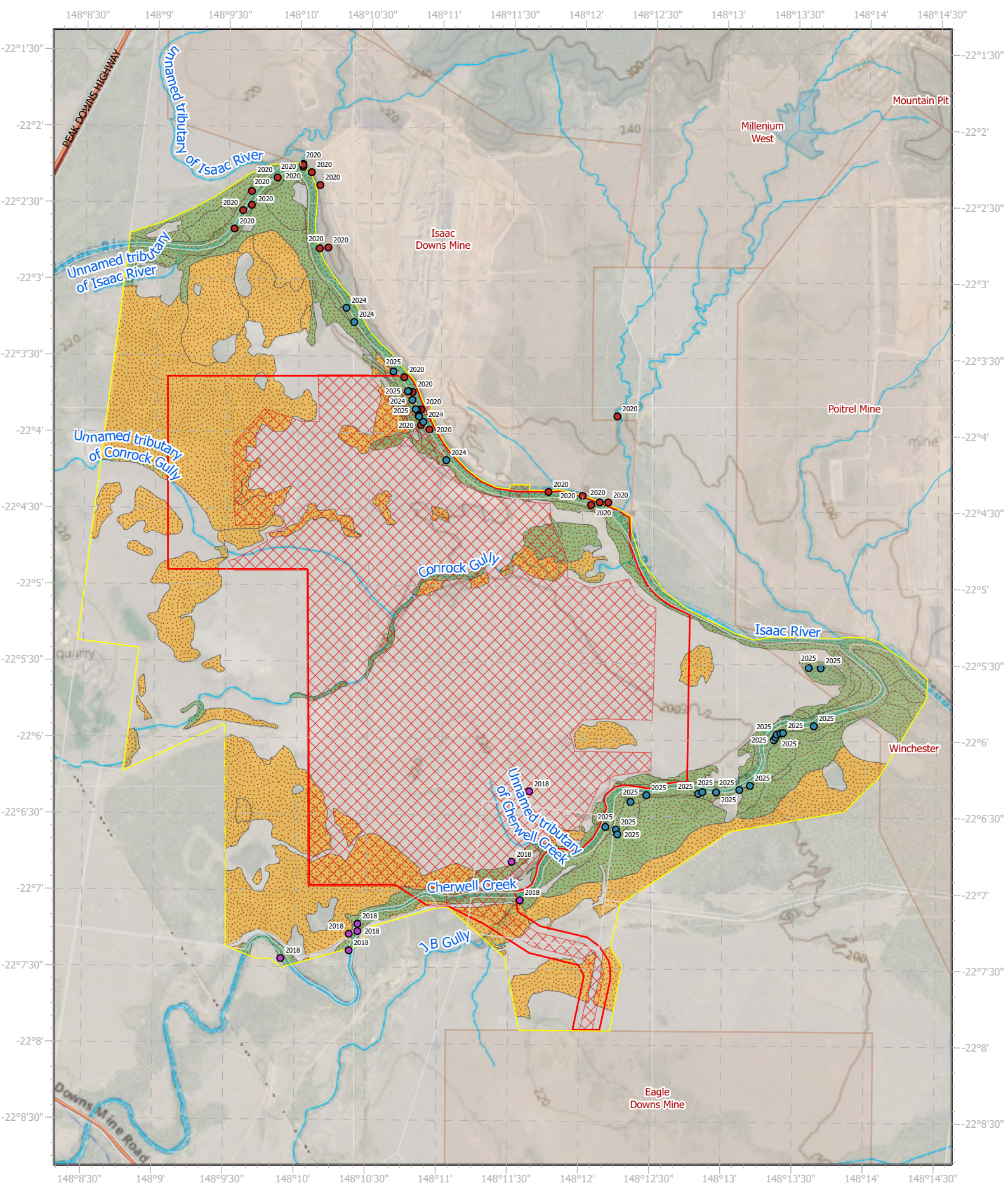
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MAP 7

Greater Glider Habitat and Presence



Project area

Survey area

Disturbance area

ML permit granted

Watercourses

Greater Glider habitat

Denning habitat

Foraging habitat

Key defining terms (DCCEEW)

Critical habitat for the survival of the Greater Glider

Threatened Fauna Observations

Greater Glider (DES)

Greater Glider (DPM Envirosciences)

Greater Glider (EcoSM)

Greater Glider (Trend Environmental)

Isaac Downs Extension
MNES Significant Species
Management Plan

Map 7 - Greater glider
habitat and detected
presence

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Metres

Scale: 1:58,000

Coordinate System: GDA2020 MGA Zone 55

Prepared: MG Checked: EK Approved: EK

Date: 24 Feb 2026

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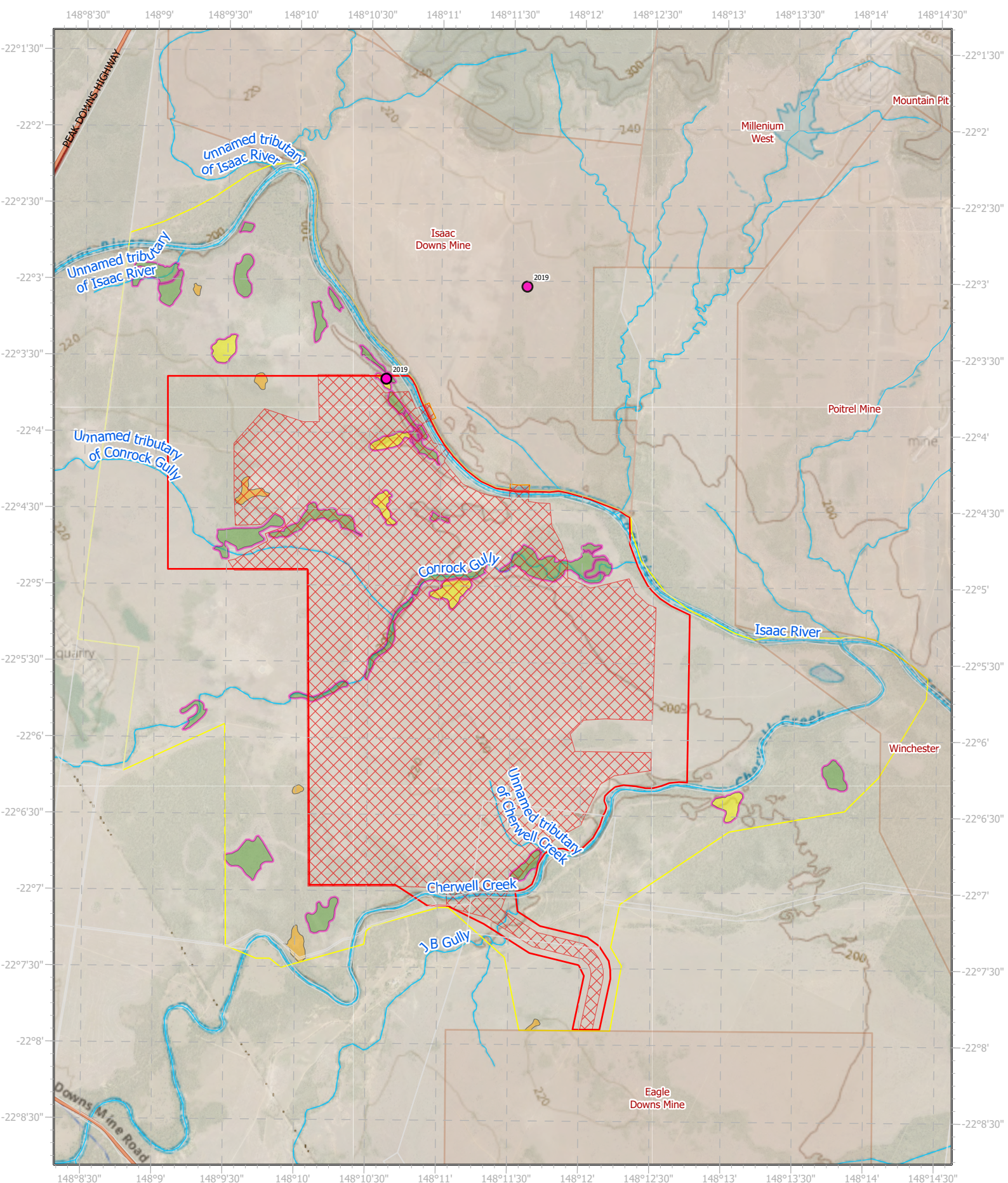
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Downs Extension\Workspace\Baseline - Greater glider habitat
Map 16.aprx



MAP 8

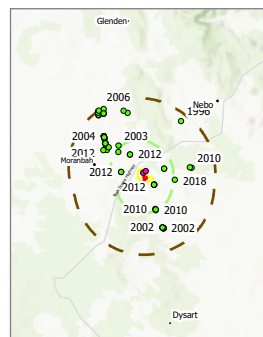
Ornamental Snake Habitat and Presence



Legend

- Project area
- Survey area
- Disturbance area
- ML permit granted
- Watercourses
- Key habitat terms (DCCEEW)**
- Important habitat for Ornamental Snake

- Ornamental snake habitat**
- Breeding habitat
- Foraging habitat
- Dispersal habitat
- Threatened Fauna Observations**
- Ornamental Snake (ALA)
- Ornamental Snake (EcoSM)



**Isaac Downs Extension
MNES Significant Species
Management Plan**

**Map 8 - Ornamental snake
habitat and detected
presence**

Scale: 1:58,000
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Prepared: MG Checked: EK Approved: EK
Date: 16 Mar 2026



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Document Name	MNES Significant Species Management Plan
Date	April 2026
Version	1
Revision	1

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Version	Revision	Date	Author	Details
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1	0	21/04/26	Emily Krunes	Document Finalisation
1	1	27/04/26	Emily Krunes	Document reviewed following Stanmore review.
1	1	06/05/26	Emily Krunes	Final Report issued

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www.trendenvironmental.com.au emily@trendenvironmental.com.au

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Head Office

94 Kennedy Esplanade
South Mission Beach, QLD 4852
P: 0455 443 654

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