VP ENVIRONMENTAL PTY LTD.

ABN 21 639 246 601

Coolgardie Gold Project
Environmental Assessment
CPS7635

Prepared for

MacPhersons Reward Pty Ltd

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BEACON MINERALS LIMITED

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CONTENTS

TABLES

FIGURES

GLOSSARY

Acronym	Description
ANCA	Australian Nature Conservation Agency.
BAM Act	*Biosecurity and Agriculture Management Act 2007*, WA Government.
BC Act	*Biodiversity Conservation Act 2016,* WA Government.
BoM	Bureau of Meteorology.
DAFWA	Department of Agriculture and Food (now DPIRD), WA Government.
DAWE	Department of Agriculture, Water and Environment (formerly DotEE), Australian Government.
DBCA	Department of Biodiversity, Conservation and Attractions (formerly DPaW), WA Government.
DER	Department of Environment Regulation (now DWER), WA Government.
DMIRS	Department of Mines, Industry Regulation and Safety (formerly DMP), WA Government
DMP	Department of Mines and Petroleum (now DMIRS), WA Government.
DotEE	Department of the Environment and Energy (now DAWE), Australian Government.
DoW	Department of Water (now DWER), WA Government.
DPaW	Department of Parks and Wildlife (now DBCA), WA Government.
DPIRD	Department of Primary Industries and Regional Development, WA Government
DWER	Department of Water and Environmental Regulation (formerly EPA, DER and DoW), WA Government
EP Act	Environmental Protection Act 1986, WA Government.
EP Regulations	Environmental Protection (Clearing of Native Vegetation) Regulations 2004, WA Government.
EPA	Environmental Protection Authority (now DWER), WA Government.
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*, Australian Government.
ESA	Environmentally Sensitive Area.
Ha	Hectare (10,000 square metres).
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union.
Km	Kilometre (1,000 metres).
MVG	Major Vegetation Groups.
NVIS	National Vegetation Information System.
OEPA	Office of the Environmental Protection Authority, WA Government.
PEC	Priority Ecological Community.
RAOU	Royal Australia Ornithologist Union.
SRE	Short Range Endemic.
SSC	Species Survival Commission, International.

Acronym	Description
TEC	Threatened Ecological Community.
WA	Western Australia.
WAHERB	Western Australian Herbarium.
WAM	Western Australian Museum, WA Government.

1 INTRODUCTION

MacPhersons Reward Pty Ltd (MRP) which is a 100% owned subsidiary of Beacon Minerals Limited (Beacon) propose to recommence mining of the the Coolgardie Gold Project (Project) located approximately 6km southeast of Coolgardie, WA (Figure 1-1). MRP currently hold an existing clearing permit for the Project (CPS7635/2) which allows for 107.07 ha of clearing within tenements M15/40 and M15/128 (Figure 1-2). An amendment to this existing permit is being submitted to:

- increase the proposed clearing to 150 ha;
- include additional tenements to the permit (M15/147, M15/148 and M15/1808); and
- extend the duration of the permit to September 2027.

This document summarises the results of flora/vegetation and fauna surveys conducted for the Project (referred to as the 'assessment area') and assesses the potential impacts to significant flora/ vegetation and fauna from the clearing activities proposed. This document has been prepared as supporting documentation for the clearing permit amendment application. The Clearing Permit Area covers an area of approximately 432 ha of which a maximum of 150 ha is proposed to be cleared (Figure 1-2).

Figure 1-1: Regional location of the assessment area

Figure 1-2: Existing and proposed clearing permit area

2 EXISTING ENVIRONMENT

2.1 REGIONAL SETTING

The assessment area lies within the South-West Interzone of WA in the Coolgardie Botanical District. Based on the Interim Biogeographic Regionalisation of Australia (IBRA, Version 7) (DotEE, 2012) the assessment area is located within the Coolgardie Bioregion of WA. The Coolgardie Bioregion is further divided into three subregions; Mardabilla (COO1), Southern Cross (COO2) and Eastern Goldfields (COO3) with the assessment area located within the Eastern Goldfields subregion (Figure 2-1).

The Coolgardie Bioregion is located within the Yilgarn Craton. Its granite basement includes Archaean Greenstone intrusions in parallel belts. Drainage is occluded (McKenzie, May & McKenna, 2002). Diverse woodlands, rich in endemic eucalypts, occur on low greenstone hills, on alluvial soils on the valley floors, around the saline playas of the region's occluded drainage system, and on broad plains of calcareous earths (McKenzie, May & McKenna, 2002).

The Eastern Goldfields subregion lies on the Yilgarn Craton's 'Eastern Goldfields Terrains'. The relief is subdued and comprised of gently undulating plains interrupted in the west with low hills and ridges of Archaean greenstones and in the east by a horst of Proterozoic basic granulite. The underlying geology is of gneisses and granites eroded into a flat plane covered with tertiary soils and with scattered exposures of bedrock. Calcareous earths are the dominant soil group and cover much of the plains and greenstone areas. A series of large playa lakes in the western half are the remnants of an ancient major drainage line (Cowan, 2001).

Figure 2-1: IBRA Bioregions in relation to the assessment area

2.2 CLIMATE

The climate of the Eastern Goldfields subregion is characterised as an arid to semi-arid climate with annual rainfall of approximately 200-300 mm (Beard, 1990; Cowan, 2001). Average climate data for the Coolgardie Bureau of Meteorology (BoM) weather station (#12018) is provided in Figure 2-2. Mean annual rainfall is 269.6mm. Mean maximum temperature ranges from 33.3°C in January to 13.6°C in September. Mean rainfall ranges from 28.8mm in June to 13.5mm in September with majority of the rainfall occurring during summer and winter months (BoM, 2022).

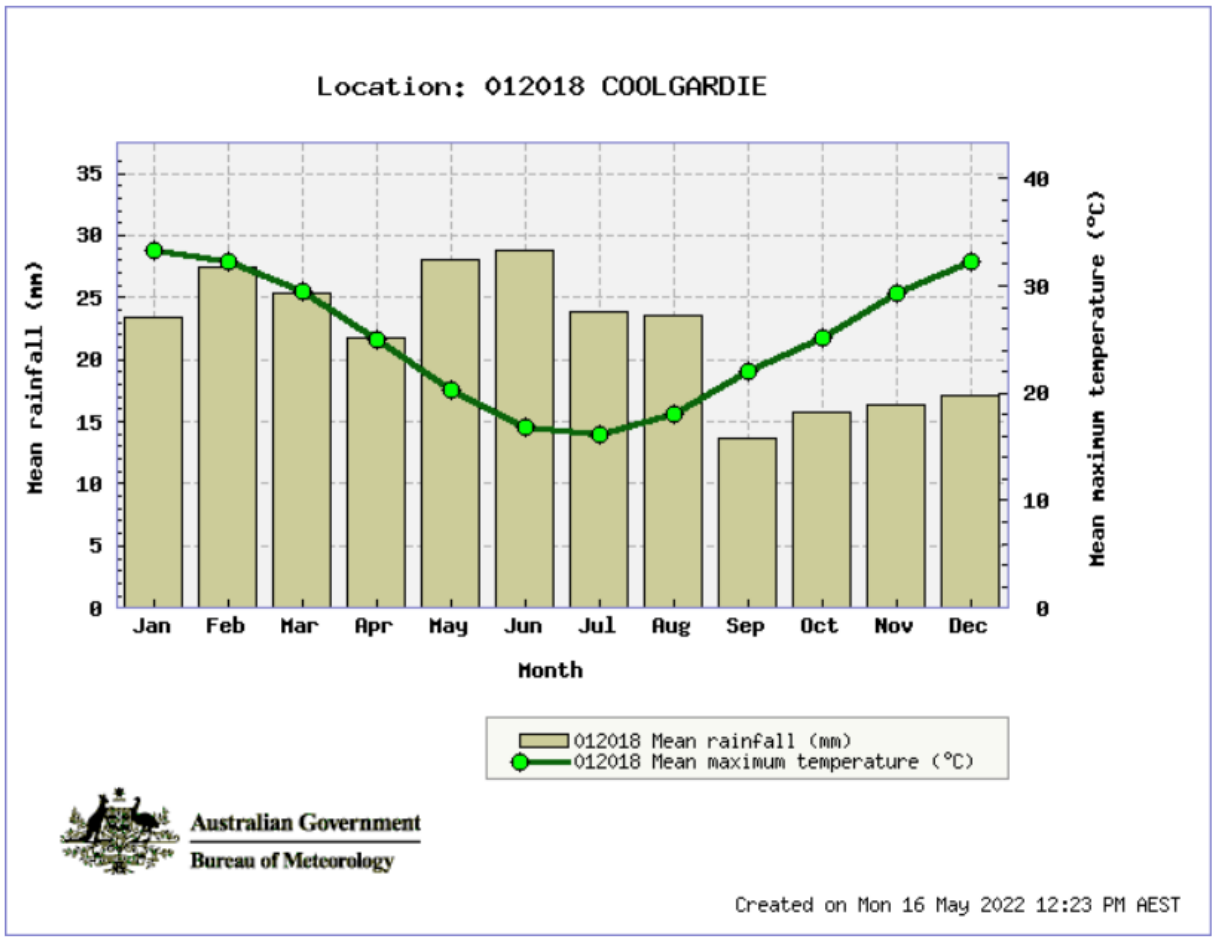


Figure 2-2: Average climatic conditions Coolgardie weather station (BoM, 2022)

2.3 PRE-EUROPEAN VEGETATION

Vegetation of the Eastern Goldfields subregion comprises of Mallees, Acacia thickets and shrub heaths on sand plains. Diverse Eucalypt woodlands occur around salt lakes, on ranges, and in valleys. Salt lakes support dwarf shrublands of samphire (Cowan, 2001). The Department of Primary Industries and Regional Development (DPIRD) GIS file (2018) indicates that the assessment area is located within one pre-European vegetation association; Coogardie 9. The extent of this vegetation association as specified in the *2018 Statewide Vegetation Statistics* (DBCA, 2019) is provided in Table 2-1.

Areas retaining less than 30% of their pre-European vegetation extent generally experience exponentially accelerated species loss, while areas with less than 10% are considered “endangered” (EPA, 2000). Development within the assessment area will not significantly reduce the extent of pre-European vegetation.

Table 2-1: Extent of Pre-European Vegetation Associations with the assessment area

Region	Pre-European extent, ha	Current extent, ha	% remaining	% current extent protected for conservation[1]	Extent within assessment area (ha)	% of current extent within the assessment area
Vegetation Association Coolgardie 9: Medium woodland; coral gum (Eucalyptus torquata) & goldfields blackbutt (E. lesouefii)						
Western Australia	98,770.16	95,687.65	96.85	0.53	432	0.45
Eastern Goldfields Subregion	98,770.16	95,687.65	96.85	0.53		0.45

Note: 1) IUCN categories 1 – IV

2.4 SOILS AND LANDSCAPE SYSTEMS

Based on geographic information provided by the DPIRD (2019), the assessment area is located within the Norseman Zone (266) of the Kalgoorlie Province (26).

The Kalgoorlie Province is characterised by undulating plains (with some sandplains, hills and salt lakes) on the granitic rocks and greenstone of the Yilgarn Craton. Soils include calcareous loamy earths and red loamy earths with some salt lake soils, red deep sands, yellow sandy earths, shallow loams and loamy duplexes. Vegetation is dominated by Eucalypt woodlands with some Acacia-Casuarina thickets, Mulga shrublands, Halophytic shrublands and Spinifex grasslands. This Province is located in the southern Goldfields between Paynes Find, Menzies, Southern Cross and Balladonia (Tille, 2006).

The Norseman Zone is characterised by undulating plains and uplands (with some sandplains and salt lakes) on granitic rocks of the Yilgarn Craton. Soils comprise of calcareous loamy earths, yellow sandy and loamy earths, red loamy earths, red deep sands and salt lake soils. Vegetation includes Salmon Gum-redwood-merrit-red mallee-gimlet woodland with Acacia/ Casuarina thickets (and some Mulga shrublands and Spinifex grasslands). This zone is located in the southern Goldfields between Koolyanobbing, Menzies, Zanthus (Trans-Australian Railway), Norseman and Lake Hope (Tille, 2006).

The Norseman Zone is further divided into soil landscape systems with the assessment area located within one soil landscape system as described in Table 2-2.

Table 2-2: Soil Landscape Systems within the assessment area

Soil Landscape System	Description	Extent within assessment area (ha)	Extent within the Coolgardie Bioregion (ha)	% of total extent within the assessment area
BB5	Rocky ranges and hills of greenstones-basic igneous rocks	432	256,646	0.17

2.5 HYDROLOGY

According to the Geoscience Australia Global Map Australia database (2015), there are no permanent or ephemeral inland waters within the assessment area. No permanent drainage lines occur within the assessment area however, a minor ephemeral drainage line intersects the mid region of the assessment area (Figure 2-3).

Groundwater Dependent Ecosystems (GDE) includes biological assemblages of species such as wetlands or woodlands that use groundwater either opportunistically or as their primary water source. For the purposes of this report, a GDE is defined as any vegetation community that derives part of its water budget from groundwater and must be assumed to have some degree of groundwater dependency. According to the BoM *Atlas of Groundwater Dependent Ecosystems* database (BoM, 2020), there are no known or potential terrestrial or aquatic GDEs within the assessment area (Figure 2-3).

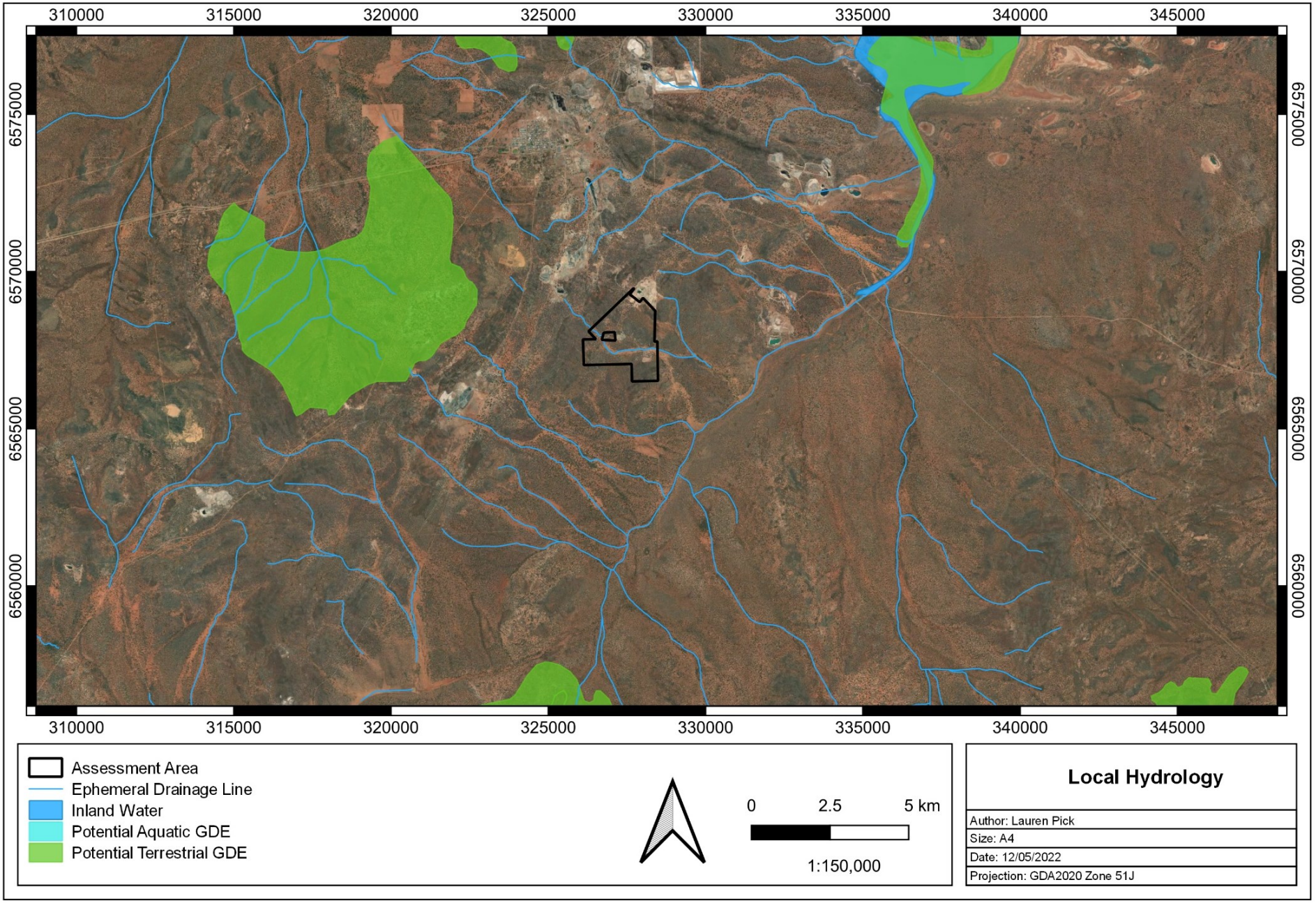


Figure 2-3: Local hydrological features in relation to the assessment area

2.6 CONSERVATION AREAS & GOVERNMENT RESERVES

The assessment area is not located within an Environmentally Sensitive Area (ESA) as listed under the *Environmental Protection Act 1986* or any proposed or vested Conservation Reserves managed by DBCA. There are no Ramsar Wetlands or Nationally Important Wetlands within the assessment area (Figure 2-4).

The assessment area is not located within a Public Drinking Water Source Area (listed under section 9 of the *Country Areas Water Supply Act 1947*) or a Schedule 1 area, as defined in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (Figure 2-4).

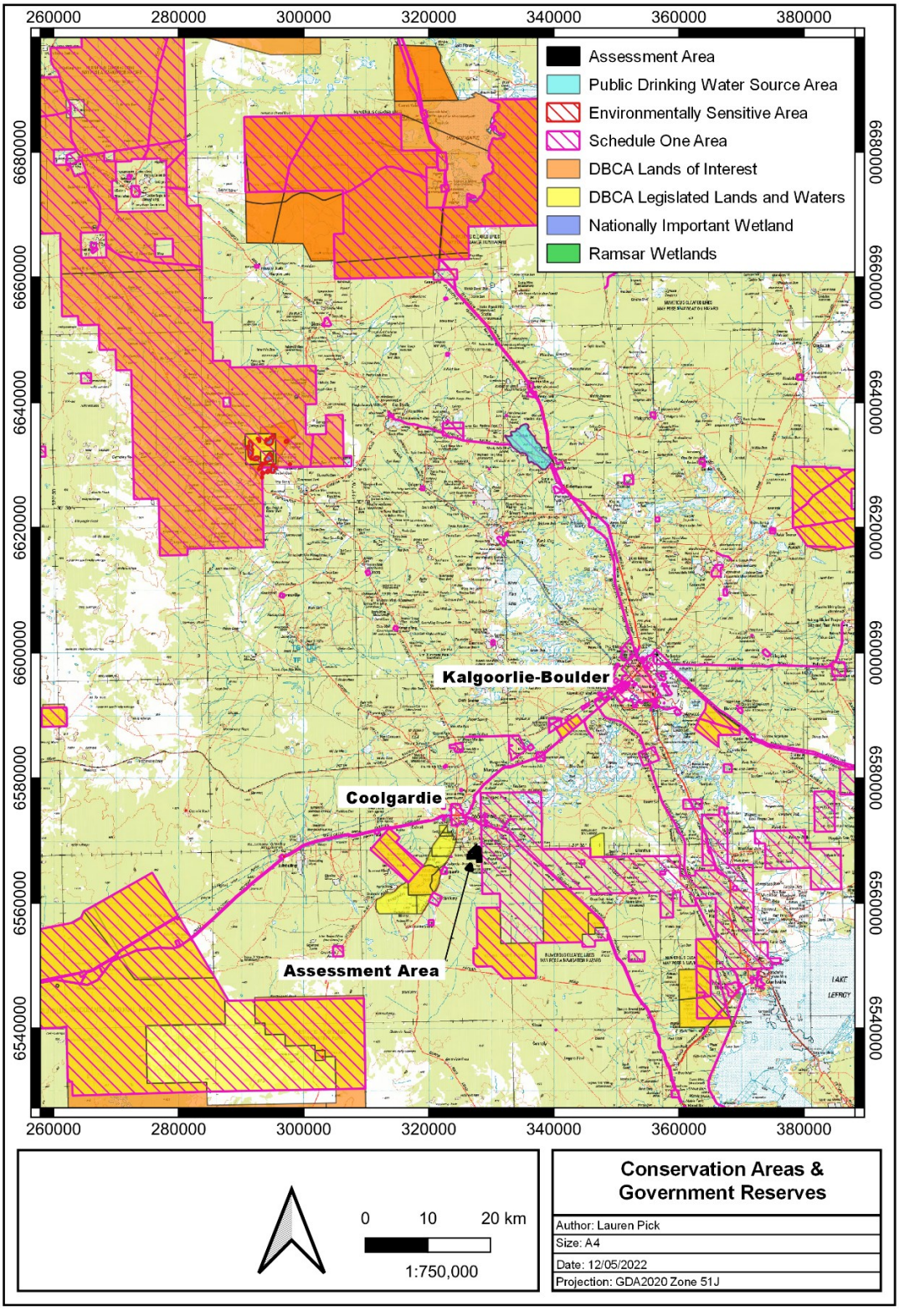


Figure 2-4: Conservation areas and government reserves in relation to the assessment area

3 FLORA AND VEGETATION

A detailed flora and vegetation survey encompassing the assessment area was conducted in October 2016 by Jenny Borger (2016). A total of 78 flora taxa were identified during the survey including three introduced species as described in Table 3-1. These taxa are not listed as a Declared Pest under the *Biosecurity and Agriculture Management (BAM) Act 2007* or a Weed of National Significance (WoNS) by the Commonwealth Department of Agriculture, Water and Environment (DAWE).

Table 3-1: Introduced flora recorded within the assessment area (Borger, 2016)

Taxon	Common Name	Image
Carrichtera annua	Wards Weed	
Medicago minima	Small Burr Medic	
Nicotiana glauca	Tree Tobacco	

3.1 VEGETATION TYPES

Fourteen vegetation types were identified during the flora and vegetation survey as described in Table 3-2. Vegetation types are shown spatially in Figure 3-1.

Table 3-2: Vegetation types within the assessment area

Vegetation Code	Landform	Description	Extent within assessment area
1	Lower slopes, plains	*Eucalyptus clelandiorum* low woodland with occasional *E. griffithsii* over *Eremophila interstans, E. parviflora, E. glabra, E. scoparia, Olearia muelleri, Senna artemisioides, Scaevola spinescens*; small areas of *Eremophila interstans, E. oppositifolia* tall open shrubland	131 ha 30.3%
2	Lower slopes	*Eucalyptus griffithsii* open forest to low woodland over *Eremophila* spp. Tall sparse shrubland over *Atriplex* spp., *Olearia muelleri, Ptilotus obovatus* low open shrubland	5 ha 1.2%
3	Lower to mid-slopes	*Eucalyptus celastroides* subsp. *celastroides* low woodland to open woodland over a low mixed shrubland (small occurrences in Veg unit 8)	5 ha 1.2%
5	Lower slopes	*Eucalyptus torquata* low open forest to low woodland over *Eremophila* spp., *Dodonaea stenozyga, Olearia muelleri, Acacia hemiteles, A. erinacea* sparse shrubland	17 ha 3.9%
6	Plains, low rises	*Eucalyptus longissima* low open forest to tall open mallee woodland over *Acacia hemiteles, Eremophila scoparia, Atriplex nummularia, Senna artemisioides, Cratystylis conocephala, Acacia calcarata* open shrubland	43 ha 10.0%
7	Broad drainage lines	*Eucalyptus griffithsii* isolated trees over *Atriplex nummularia, A. vesicaria, Eremophila alternifolia, Lycium australe* open to sparse shrubland	53 ha 12.3%
8	Plain with low stoney rises	*Eucalyptus griffithsii*, and occasional *E. celastroides* open mallee woodland to isolated mallee over *Acacia burkittii, Bertya dimerostigma, Eremophila decipiens, E. oppositifolia, E. glabra, Dodonaea lobulata* tall shrubland	14 ha 3.2%
9	Plain	*Eucalyptus salmonophloia* open forest to open woodland	4 ha 0.9%
10	Lower & midslopes	*Eucalyptus campaspe, E. griffithsii* low open forest *over Eremophila interstans* isolated tall shrubs over *Atriplex* spp. and *Eremophila* spp.	51 ha 11.8%
11	Mid to upper slopes	*Eucalyptus campaspe, E. clelandii, E. celastroides* low woodland to open woodland over *Eremophila* spp., *Exocarpos aphyllus, Senna artemisioides, Santalum acuminatum* tall open shrubland	29 ha 6.7%
12	Ridges of rocky hills	*Eucalyptus griffithsii* low open woodland to isolated trees over *Eremophila oldfieldii* subsp. *angustifolia*, *E. decipiens, E. interstans, Exocarpos aphyllus* all sparse shrubland to open shrubland over *Acacia erinacea, Dodonaea lobulata, Acacia tetragonophylla* open shrubland	12 ha 2.8%
13	Valley; midslope	*Casuarina pauper* isolated low trees over mixed shrubland; semi mature regrowth	4 ha 0.9%
14	Upper slopes rocky hills	*Eucalyptus torquata, E. griffithsii* low open forest over *Eremophila oldfieldii* subsp. *angustifolia*, *Santalum spicatum* tall open shrubland over *Dodonaea* and *Eremophila* spp., *Grevillea acuaria* open shrubland; areas of *Eremophila* tall shrubland	33 ha 7.6%
15	Lower slopes & plain	*Eucalyptus griffithsii, E. celastroides* &/or *E. torquata* mallee woodlands over *Allocasuarina helmsii, Eremophila interstans, Acacia densiflora, Santalum spicatum* isolated tall shrubs over *Allocasuarina helmsii, Acacia hemiteles, Westringia rigida* low shrubs over *Triodia scariosa* open tussock grassland	6 ha 1.4%
D	Various	Degraded to Completely Degraded	25 ha 5.8%
Total			**432 ha**

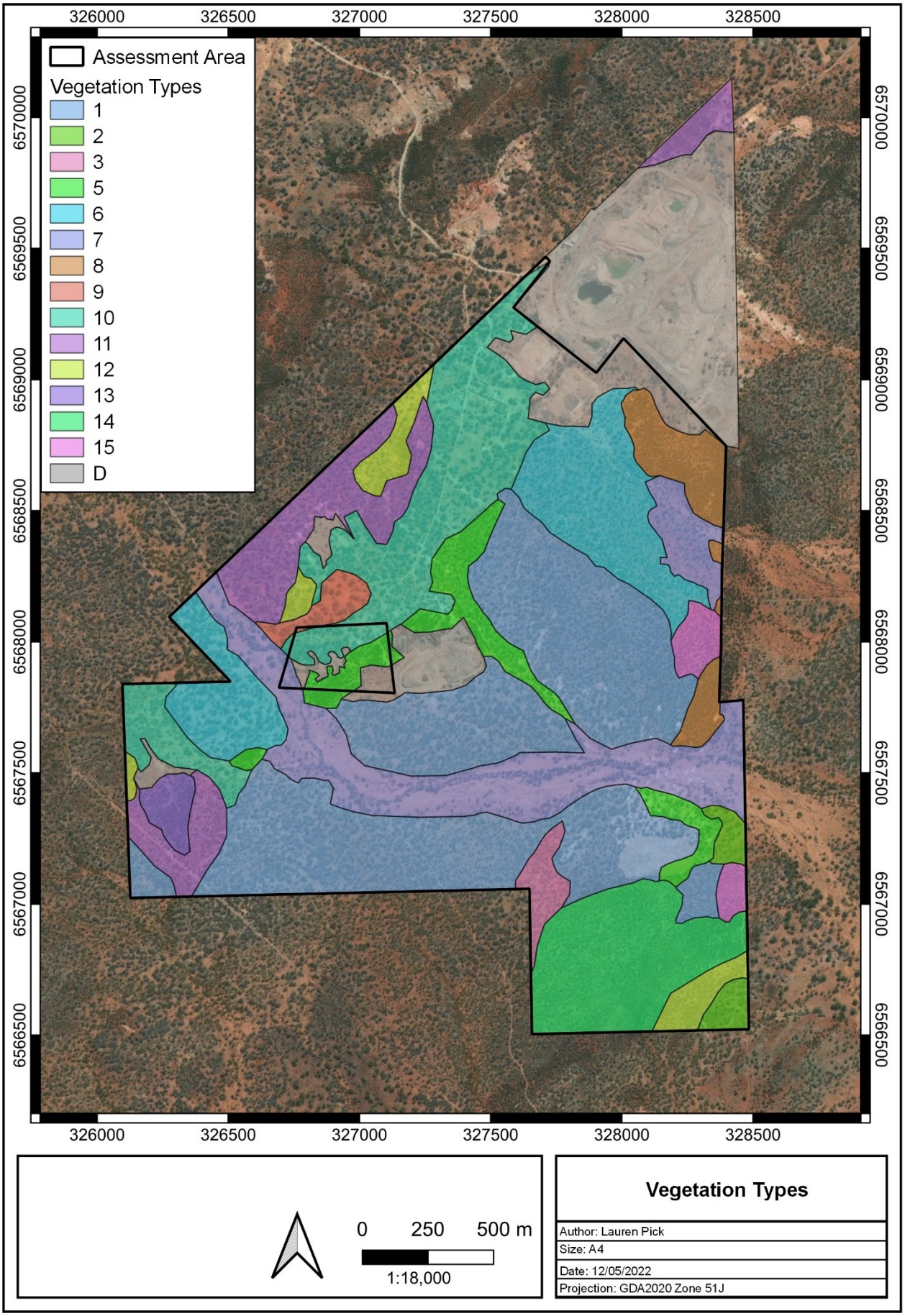


Figure 3-1: Vegetation types within the assessment area

3.2 VEGETATION CONDITION

Based on the vegetation condition rating scale for the South-West Interzone specified by EPA (2016c), vegetation ranged from 'completely degraded' to 'excellent' with majority of the vegetation within good-very good condition (Table 3-3 and Figure 3-2). Disturbances recorded within the assessment area included access roads, existing mining, exploration, pastoral land use and introduced species. There was no evidence of recent fire disturbance within the assessment area.

Table 3-3: Vegetation condition within the assessment area

Vegetation Condition Rating (EPA, 2016c)	Extent within assessment area
Very Good-Excellent	65 ha (15%)
Good-Very Good	207 ha (48%)
Degraded-Good	135 ha (31%)
Completely Degraded	25 ha (6%)
Total	**432 ha (100%)**

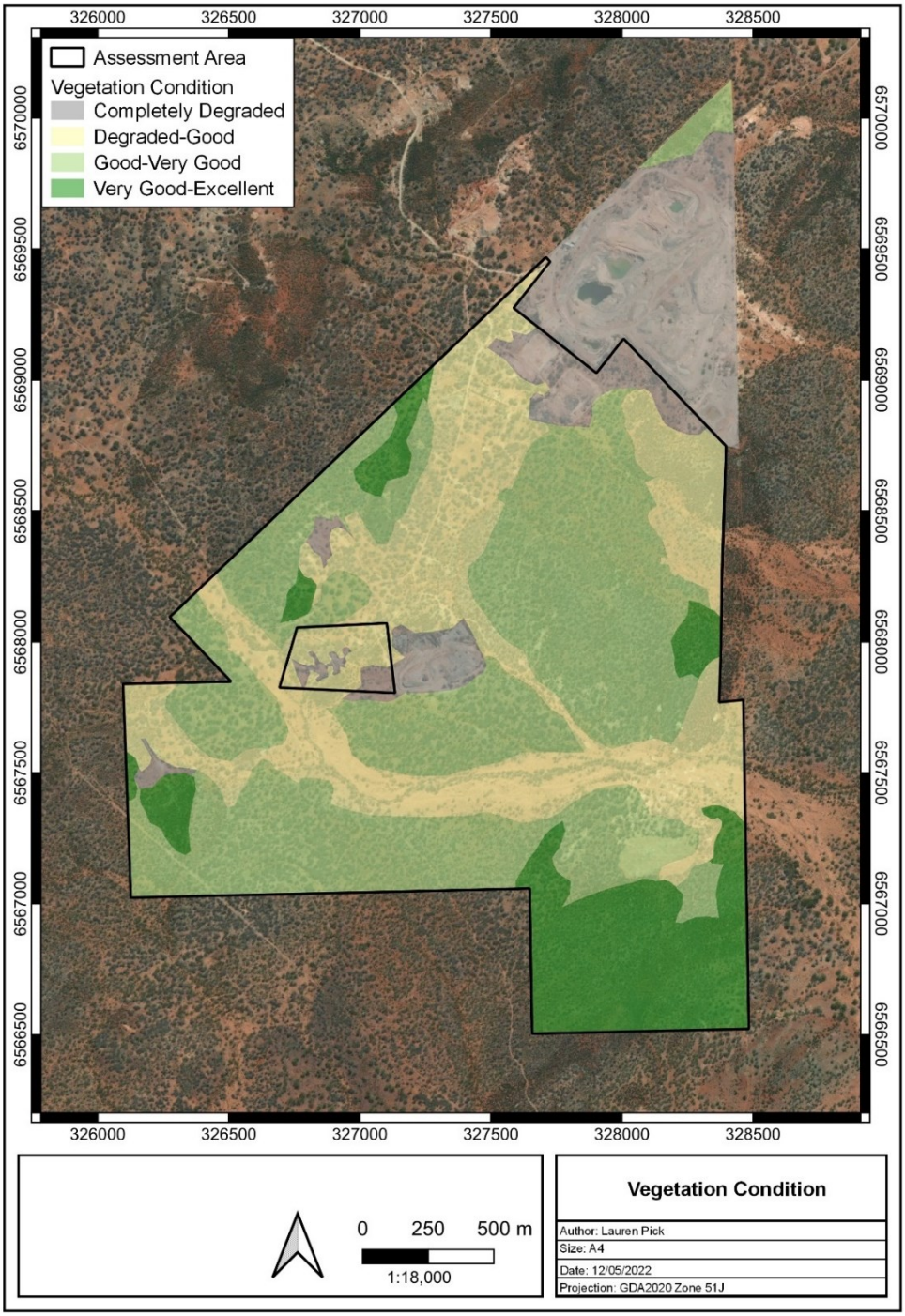


Figure 3-2: Vegetation condition within the assessment area

3.3 SIGNIFICANT FLORA

According to the EPA *Environmental Factor Guideline for Flora and Vegetation* (EPA, 2016a) significant flora includes:

- flora being identified as Threatened or Priority species;
- locally endemic flora or flora associated with a restricted habitat type (e.g. surface water or groundwater dependent ecosystems);
- new species or anomalous features that indicate a potential new species;
- flora representative of the range of a species (particularly, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range);
- unusual species, including restricted subspecies, varieties or naturally occurring hybrids; and
- flora with relictual status, being representative of taxonomic groups that no longer occur widely in the broader landscape.

No Threatened Flora taxa listed under Commonwealth or State legislation were identified within the assessment area during the field survey or are known to occur within the assessment area, based on DBCA spatial database records (DBCA, 2020a). No Priority Flora taxa listed by DBCA were identified during the field survey or are known to occur within the assessment area, based on DBCA spatial database records (DBCA, 2020). No other significant flora (i.e. endemic, new or anomalous species, range extension, relictual or unusual species) were identified within the assessment area.

DBCA database records (DBCA, 2020a) of significant flora records in relation to the assessment area are shown spatially in Figure 3-3.

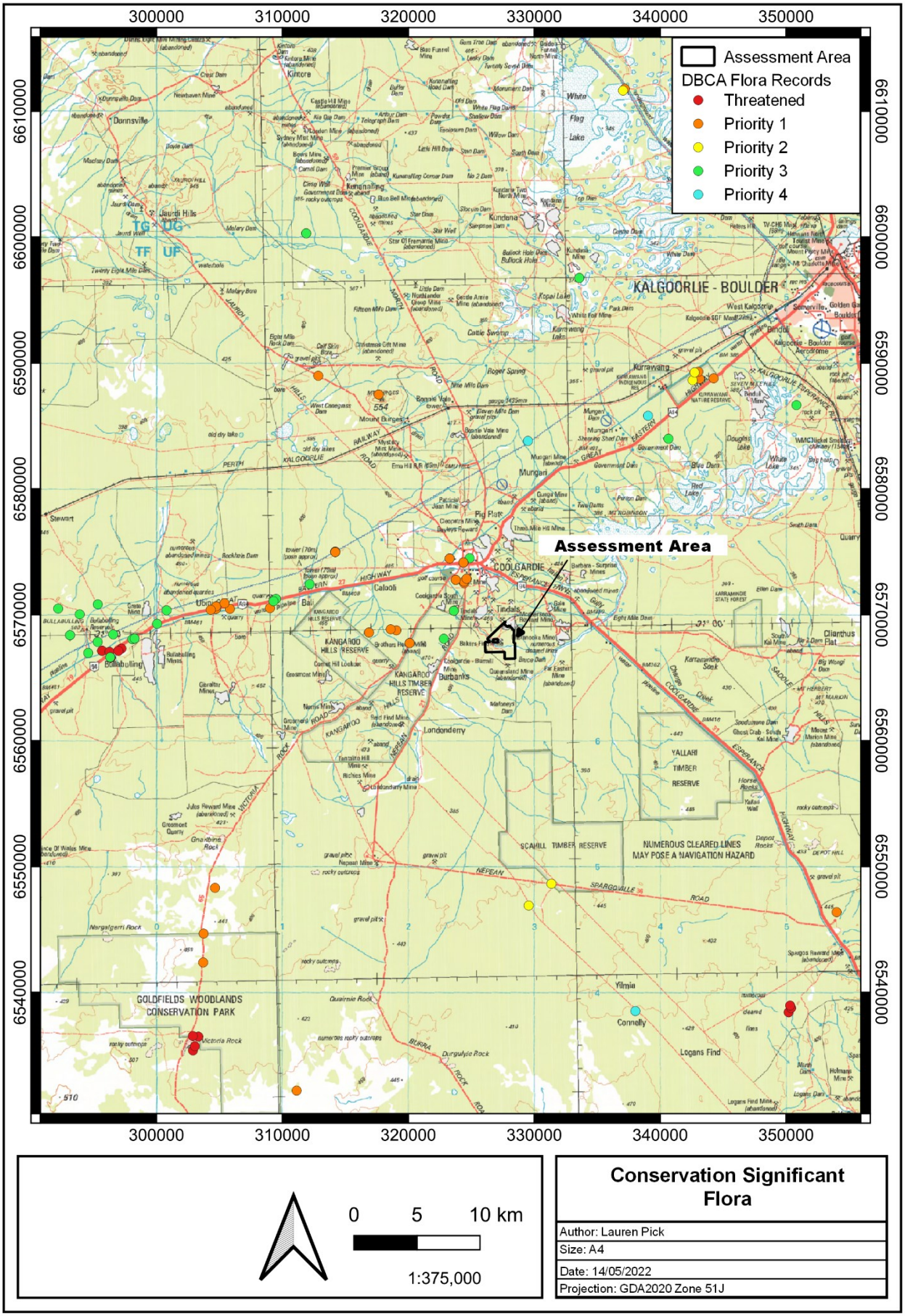


Figure 3-3: Significant flora in relation to the assessment area

3.4 SIGNIFICANT VEGETATION

According to the EPA *Environmental Factor Guideline for Flora and Vegetation* (EPA, 2016b) significant vegetation includes:

- vegetation being identified as Threatened or Priority Ecological Communities;
- vegetation with restricted distribution;
- vegetation subject to a high degree of historical impact from threatening processes;
- vegetation which provides a role as a refuge; and
- vegetation providing an important function required to maintain ecological integrity of a significant ecosystem.

No Threatened Ecological Communities listed under Commonwealth or State legislation were identified within the assessment area during the field survey or are known to occur within the assessment area, based on DBCA spatial database records (DBCA, 2020b). No Priority Ecological Communities listed by DBCA were identified during the survey or are known to occur within the assessment area (DBCA, 2020b). No other significant vegetation (i.e., restricted vegetation, highly disturbed vegetation, vegetation providing important refuge or significant ecological function) was identified within the assessment area.

4 FAUNA

A basic fauna survey and targeted Malleefowl survey encompassing the assessment area was conducted in October 2016 by Jenny Borger (2016). A total of 28 fauna taxa were identified during the survey including nineteen birds, four reptiles and five mammals (including three feral fauna).

4.1 FAUNA HABITATS

Five broad fauna habitat types were identified which generally correspond to the described vegetation communities. These habitats are described in Table 4-1 and are shown in Figure 4-1.

Table 4-1: Fauna habitats within the assessment area

Fauna Habitat	Fauna Habitat Attributes	Extent within the Assessment Area
Drainage Line: Eucalypt Woodland	• Low to moderate leaf litter. • Creek banks were low and actively eroding and not suitable for nesting sites. • Limited dense shrub however some shelter present under chenopod shrubs.	53 ha 12.3%
Hillslopes: Eucalypt Woodland	• Moderate to high leaf litter. • Relatively dense shrubs providing cover for small fauna. • Dominated by rocky substrate less suitable for burrowing. • Potential malleefowl habitat.	244 ha 56.4%
Plains: Eucalypt Woodland	• Moderate to high leaf litter. • Limited midstorey cover. • Spinifex tussocks present which may provide shelter. • Potential malleefowl habitat in areas of denser vegetation.	61 ha 14.2%
Ridges: Eucalypt Woodland	• Moderate to high leaf litter. • Relatively dense shrubs providing cover for small fauna. • Several small shelter areas available for small reptiles with significant cover of small to medium branches and rocks. • Dominated by rocky substrate less suitable for burrowing. • Potential malleefowl habitat.	45 ha 10.3%
Valley/ Midslope: Casuarina Woodland	• Moderate leaf litter. • Dominated by rocky substrate less suitable for burrowing. • Relatively dense tall shrubs providing cover for small fauna. • Potential malleefowl habitat.	4 ha 1.0%

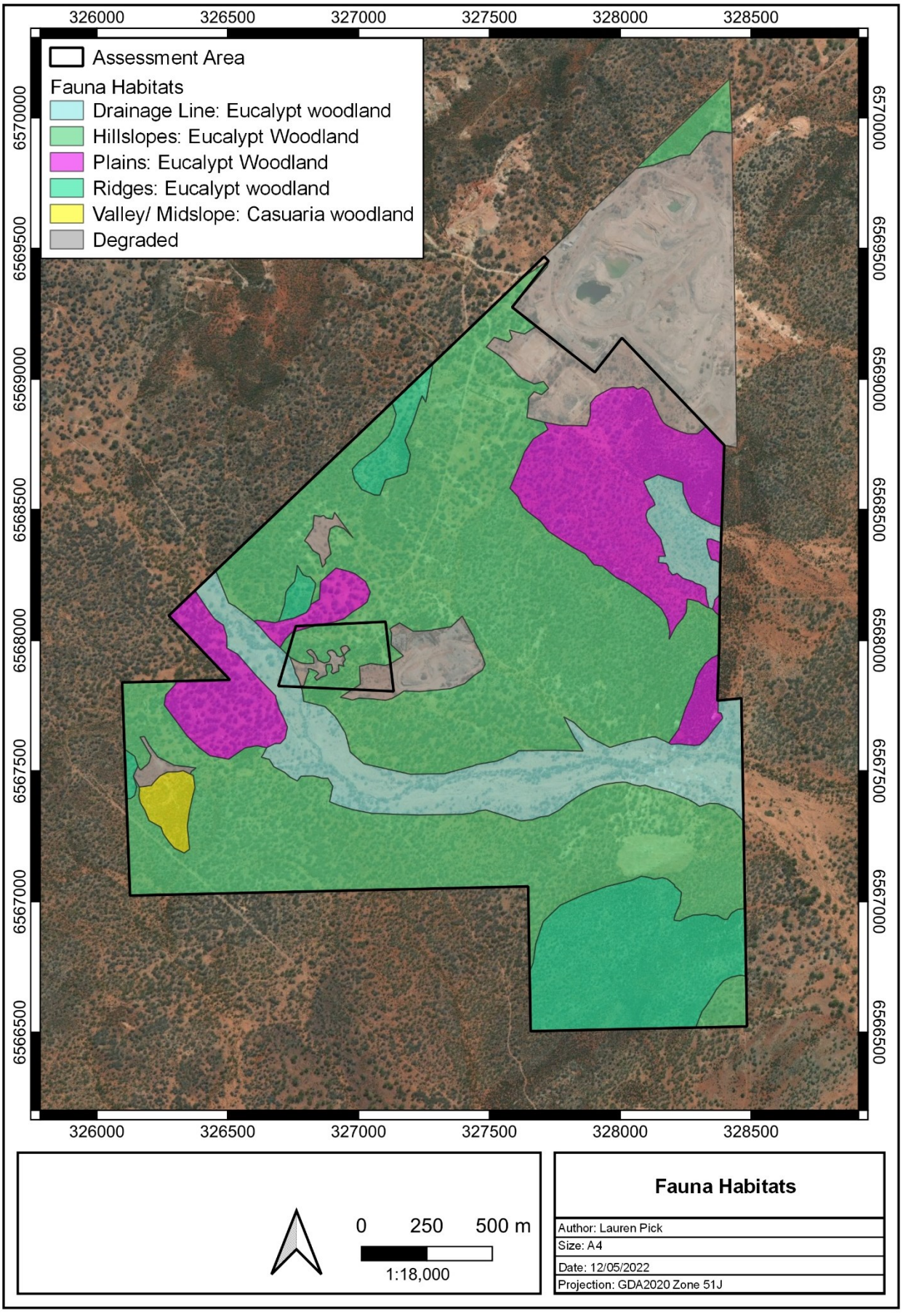


Figure 4-1: Fauna habitats within the assessment area

4.2 SIGNIFICANT FAUNA

According to the EPA *Environmental Factor Guideline for Terrestrial Fauna* (EPA, 2016d) significant fauna includes:

- Fauna being identified as a Threatened or Priority species;
- Fauna species with restricted distribution;
- Fauna subject to a high degree of historical impact from threatening processes; and
- Fauna providing an important function required to maintain the ecological integrity of a significant ecosystem.

No Threatened Fauna taxa listed under Commonwealth or State legislation were identified within the assessment area during the fauna survey. No Priority Fauna taxa listed by DBCA were identified during the fauna survey or are known to occur within the assessment area. No other significant fauna (described above) were confirmed as occurring within the assessment area.

No signs of Malleefowl activity was identified during the survey (no tracks, scats, feathers or active mounds). Three historic inactive mounds were identified within the assessment area (detailed in Table 4-2 and shown in Figure 4-2), with no recent activity noted, and likely nesting absence for more than twenty years. Available information therefore suggests that a breeding population of this species is unlikely to be present in the general area, though transient, non-breeding individuals may occasionally occur.

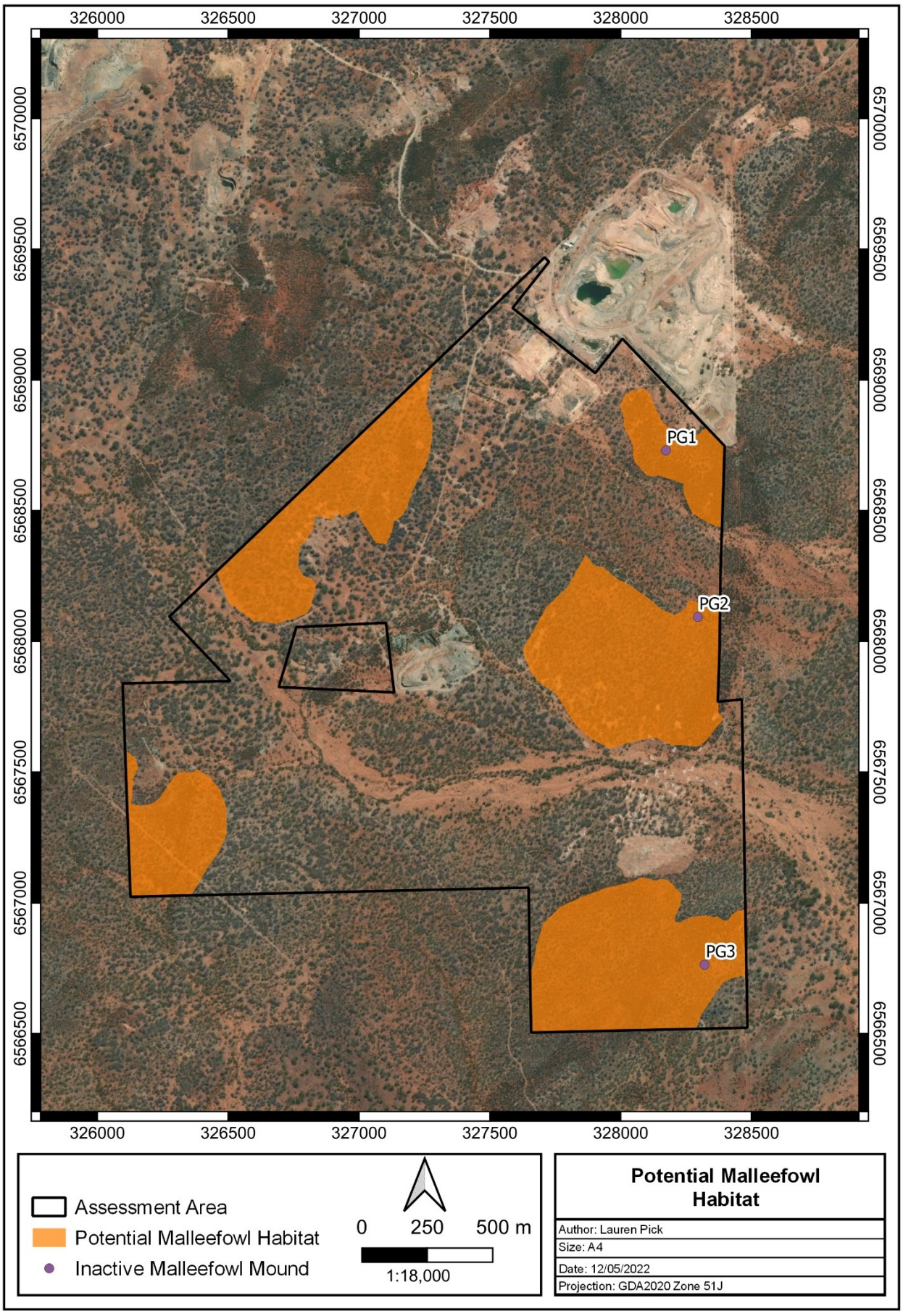
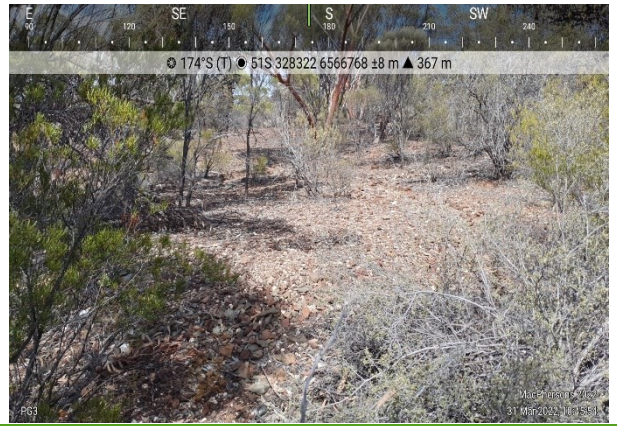


Figure 4-2: Potential Malleefowl habitat and historic mounds

Table 4-2: Historic Malleefowl mounds

No.	Image 2016	Image 2022	GDA94 (Zone 51)	Mound Profile
PG1			328172 E 6568729 N	Extinct Profile 6 This MFM was almost level with the surrounding land surface. A mature Acacia burkittii shrub was present in the original middle of the mound, and would be several years old. There were no signs of any mallee fowl activity in the area, including a lack of tracks, feathers or egg shells.
PG2			328294 E 6568092 N	Extinct Profile 6 The MFM was almost level with the surrounding land surface, with no distinct inner area. A few herbs were present on the outer edges, but these were very sparse in the general area as well. Another possible extinct mound was located to the east of this site, but was highly disturbed with an extensive rabbit warren, and so was not recorded.

No.	Image 2016	Image 2022	GDA94 (Zone 51)	Mound Profile
PG3			328320 E 6566762 N	Profile 1 This MFM is likely to have been inactive for > 20 years. It has held its shape due to the amount of rock in the structure. The rocks appear to have been in situ for several years. There was a slight dip in the centre which had windblown organic matter, as well as a few branchlets from the adjacent tree. There were no signs of recent mallee fowl activity in the area, including no egg shells, feathers or tracks.

5 ENVIRONMENTAL LEGISLATION

An assessment of the survey findings against relevant Commonwealth and State environmental legislation is provided in the following sections.

5.1 COMMONWEALTH LEGISLATION

5.1.1 *ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999*

The EPBC Act protects matters of national environmental significance, and is used by the Commonwealth DAWE to list threatened taxa and ecological communities into categories based on the criteria set out in the Act (www.environment.gov.au/epbc/index.html). The Act provides a national environmental assessment and approval system for proposed developments and enforces strict penalties for unauthorised actions that may affect matters of national environmental significance. Matters of national environmental significance as defined by the Commonwealth EPBC Act include:

- Nationally threatened flora species;
- World heritage properties;
- National heritage places;
- Wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed);
- Nationally threatened ecological communities;
- Commonwealth marine area;
- The Great Barrier Reef Marine Park; and
- Nuclear actions (including uranium mining) a water resource, in relation to coal seam gas development and large coal mining development.

No matters of national environmental significance as defined by the Commonwealth EPBC Act were identified within the assessment area.

5.2 STATE LEGISLATION

5.2.1 ENVIRONMENTAL PROTECTION ACT WA 1986

The EP Act provides for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment. The Act is administered by The Department of Water and Environment Regulation (DWER), which is the State Government's environmental regulatory agency.

Under Section 51C of the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations (Regulations) WA 2004* any clearing of native vegetation in Western Australia that is not eligible for exemption under Schedule 6 of the *EP Act 1986* or under the Regulations 2004 requires a clearing permit from the DWER or DMIRS. Under Section 51A of the *EP Act 1986* native vegetation includes aquatic and terrestrial vegetation indigenous to Western Australia, and intentionally planted vegetation declared by regulation to be native vegetation, but not vegetation planted in a plantation or planted with commercial intent. Section 51A of the *EP Act 1986* defines clearing as "the killing or destruction of; the removal of; the severing or ringbarking of trunks or stems of; or the doing of substantial damage to some or all of the native vegetation in an area, including the flooding of land, the burning of vegetation, the grazing of stock or an act or activity that results in the above". Exemptions under Schedule 6 of the EP Act and the EP Regulations do not apply in Environmentally Sensitive Areas (ESA) as declared under Section 51B of the EP Act or TEC listed under State and Commonwealth legislation.

No evidence of the assessment area containing any TEC or Threatened Flora or Fauna was identified during the survey. The assessment area is not located within an ESA.

5.2.2 BIODIVERSITY CONSERVATION ACT 2016

This Act has been established for the conservation and protection of biodiversity and biodiversity components in Western Australia and to promote the ecologically sustainable use of biodiversity components in the State. Taxa are classified as 'Threatened" when their populations are geographically restricted or are threatened by local processes (see following sections for Threatened definitions). Under this Act all native flora and fauna are protected throughout the State. Financial penalties are enforced under this Act if threatened species are collected without an appropriate licence.

Under Section 54(1) of the BC Act, habitat is eligible for listing as critical habitat if:

(a) it is critical to the survival of a threatened species or a threatened ecological community; and

(b) its listing is otherwise in accordance with the ministerial guidelines.

No threatened species or critical habitat listed under the BC Act were recorded within the assessment area.

5.3 NATIVE VEGETATION CLEARING PRINCIPLES

Based on the outcomes from the survey, an assessment of the proposed clearing against the native vegetation clearing principles listed under Schedule 5 of the EP Act was conducted as summarised in Table 5-1. The assessment identified the proposed clearing is not at variance or unlikely to be at variance with the clearing principles.

Table 5-1: Native Vegetation Clearing Principles Assessment

Letter	Principle Native vegetation should not be cleared if it:	Assessment	Outcome
(a)	comprises a high level of biological diversity.	Vegetation identified within the assessment area is not considered to be of high biological diversity and is well represented in the local area.	Clearing is unlikely to be at variance to this principle
(b)	comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to WA.	No significant fauna were observed within the assessment area. The assessment area comprises of broad fauna habitats that are typical of those in the wider region. No unique fauna habitats (caves, rocky outcrops/ pools etc.) occur within the assessment area. The area once supported mallee fowl, but no recent activity was found of this species. Two of the three mounds located are extinct, with profile 6; while the third is also likely to be extinct, but has held some shape due to the amount of rock in the mound.	Clearing is unlikely to be at variance to this principle
(c)	includes, or is necessary for the continued existence of rare flora.	No Threatened Flora taxa, pursuant to the BC Act and the EPBC Act were identified within the assessment area.	Clearing is not at variance to this principle
(d)	comprises the whole or part of or is necessary for the maintenance of a threatened ecological community (TEC).	No TEC listed under the EPBC Act or by the BC Act occur within the assessment area.	Clearing is not at variance to this principle
(e)	is significant as a remnant of native vegetation in an area that has been extensively cleared	The assessment area occurs within the pre-European Beard vegetation association Coolgardie 9 which retains >96% of the original pre-European vegetation extent.	Clearing is unlikely to be at variance to this principle

Letter	Principle Native vegetation should not be cleared if it:	Assessment	Outcome
(f)	is growing, in, or in association with, an environment associated with a watercourse or wetland	There are no inland waters (lakes/ playas) within the assessment area. A minor ephemeral drainage line runs east-west through the mid region of the assessment area. This watercourse has a high level of disturbance through historical pastoral and mining activities, with active erosion and sedimentation processes present. Vegetation of the drainage line was described as *Eucalyptus griffithsii* isolated trees over *Atriplex nummularia, A. vesicaria, Eremophila alternifolia, Lycium australe* open to sparse shrubland which represents 12.3% of the total assessment area.	Clearing is unlikely to be at variance to this principle
(g)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	The assessment area occurs within the pre-European Beard vegetation association Coolgardie 9 which retains >96% of the original pre-European vegetation extent. Clearing within these vegetation associations is not likely to lead to land degradation issues such as salinity, water logging or acidic soils.	Clearing is unlikely to be at variance to this principle
(h)	Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	The assessment area is not located within a proposed or vested conservation area. The closest conservation reserve is the Kangaroo Hills Timber Reserve, location approximately 3km west of the assessment area. Given the distance of the assessment area from this conservation area, clearing within the assessment area is unlikely to impact the environmental values of this reserve.	Clearing is unlikely to be at variance to this principle
(i)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	There are no inland waters (lakes/ playas) within the assessment area. A minor ephemeral drainage line runs east-west through the mid region of the assessment area. This watercourse has a high level of disturbance through historical pastoral and mining activities, with active erosion and sedimentation processes present. Vegetation of the drainage line was described as *Eucalyptus griffithsii* isolated trees over *Atriplex nummularia, A. vesicaria, Eremophila alternifolia, Lycium australe* open to sparse shrubland which represents 12.3% of the total assessment area. Most rainfall is lost by evaporation or surface runoff. Only a small portion infiltrates the soil and recharges the groundwater.	Clearing is unlikely to be at variance to this principle
(j)	Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding	Rainfall is unreliable and highly variable with an average rainfall for Coolgardie of approximately 267mm and an evaporation rate of 2400mm. The region is not prone to flooding and does not contain perennial water sources.	Clearing is unlikely to be at variance to this principle

6 ENVIRONMENTAL MANAGEMENT MEASURES

In order to minimise impacts on flora/vegetation and fauna from the proposed clearing activities, the following measures will be implemented:

- Induction and training on presence of potential significant flora/ fauna and associated habitat to staff and contractors.
- Avoidance of clearing mature trees and vegetation associated with the minor ephemeral drainage line where possible.
- Preferential use of existing cleared areas where possible to minimise clearing extent.
- Targeted pre-clearing Malleefowl surveys within suitable habitat to be conducted during Malleefowl breeding period (September-January) to confirm no active Malleefowl mounds present within the assessment area. Should any active Malleefowl mounds be identified, a 200m buffer exclusion zone surrounding any active Malleefowl mounds will be applied.

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