

**Environmental Assessment**  
**Golden Point Exploration Programme**  
**Clearing Permit Application**  
**E77/2443, M77/88 & M77/124**

**Prepared for**  
**Ramelius Resources Limited**



**Version 1**  
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**Prepared by:**  
**Botanica Consulting Pty Ltd**  
**PO Box 2027**  
**Boulder WA 6432**

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**Prepared by:** Lauren Pick  
Senior Environmental Consultant  
Botanica Consulting Pty Ltd

**Reviewed by:** Andrea Williams  
Director  
Botanica Consulting Pty Ltd

**Approved by:** Jim Williams  
Director  
Botanica Consulting Pty Ltd

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## Glossary

Acronym	Description
BA	Birdlife Australia (Formerly RAOU, Birds Australia).
BAM Act	Biosecurity and Agriculture Management Act 2007, WA Government.
Botanica	Botanica Consulting Pty Ltd.
BC Act	<i>Biodiversity Conservation Act</i> (2016). WA Government.
BoM	Bureau of Meteorology.
CALM	Department of Conservation and Land Management (now DPaW), WA Government.
CAMBA	China Australia Migratory Bird Agreement 1998.
DAFWA	Department of Agriculture and Food, WA Government.
DBCA	Department of Biodiversity, Conservation and Attractions WA Government
DER	Department of Environment Regulation (now DWER), WA Government.
DMP	Department of Mines and Petroleum (now DMIRS), WA Government.
DotEE	Department of the Environment and Energy, Australian Government.
DPaW	Department of Parks and Wildlife (now DBCA), WA Government.
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotEE, formerly DEH, DEWHA), Australian Government.
EMO	Edna May Operations Pty Ltd.
EP Act	Environmental Protection Act 1986, WA Government.
EP Regulations	Environmental Protection (Clearing of Native Vegetation) Regulations 2004, WA Government.
EPA	Environmental Protection Authority, 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.
JAMBA	Japan Australia Migratory Bird Agreement 1981.
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.
Ramelius	Ramelius Resources Limited.
RAOU	Royal Australia Ornithologist Union.
ROKAMBA	Republic of Korea-Australia Migratory Bird Agreement 2007.
SRE	Short Range Endemic.
SSC	Species Survival Commission, International.
TEC	Threatened Ecological Community.
WA	Western Australia.
WAHERB	Western Australian Herbarium.
WAM	Western Australian Museum, WA Government.
WC Act	Wildlife Conservation Act 1950, WA Government.

## 1 Introduction

Ramelius Resources Ltd acquired Edna May Operations Pty Ltd (EMO), the owner of the Edna May Gold Mine (referred to as the 'Project') on 1st October, 2017 with EMO a wholly-owned subsidiary of Ramelius Resources Ltd. The Edna May Gold Mine is located in the Shire of Westonia, approximately 1 km north of the township of Westonia and approximately 280 km east-northeast of Perth, WA (Figure 1-1).

EMO seeks to conduct an exploration programme (referred to the 'Golden Point exploration programme') to determine the potential for a proposed cutback of the existing Edna May open pit. The Golden Point exploration programme is located directly east of the existing Edna May Gold Mine (Figure 1-2).

Establishment of the proposed Golden Point exploration programme will require clearing of native vegetation on the far north-eastern edge of the 'Westonia Common', an assemblage of 15 remnant vegetation reserves with a combined area of approximately 2,208 ha. The Westonia Common contains the Threatened Ecological Community (TEC) "Eucalypt woodlands of the Western Australian Wheatbelt", which is listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and managed by the Department of Biodiversity, Conservation and Attractions (DBCA). Additionally, the 'Eucalypt woodlands of the Western Australian Wheatbelt' is also listed by the DBCA as a Priority 3 Ecological Community (PEC) and the 'Red Morel Woodland of the Wheatbelt' (a component of the TEC) is also listed by DBCA as a Priority 1 PEC.

The proposed drill lines have been positioned along historically cleared drill lines and tracks in order to minimise disturbance, however an area permit encompassing an area of 4.2 ha (referred to as 'Clearing Permit Area') is being applied for, within which a maximum of 2.1 ha of clearing is proposed (inclusive of 1 ha of existing clearing/disturbance) for the development of the Golden Point exploration programme within tenements E77/2443, M77/88 and M77/124. The proposed Clearing Permit Area encompasses a 5m wide area either side of the centre line of all the proposed drill lines, inclusive of existing/ historically cleared tracks and disturbed areas associated with the existing Edna May mine/ historic prospecting/ exploration activities, which makes up a substantial proportion of the Clearing Permit Area. Figure 1-2 shows the area covered by the proposed permit.

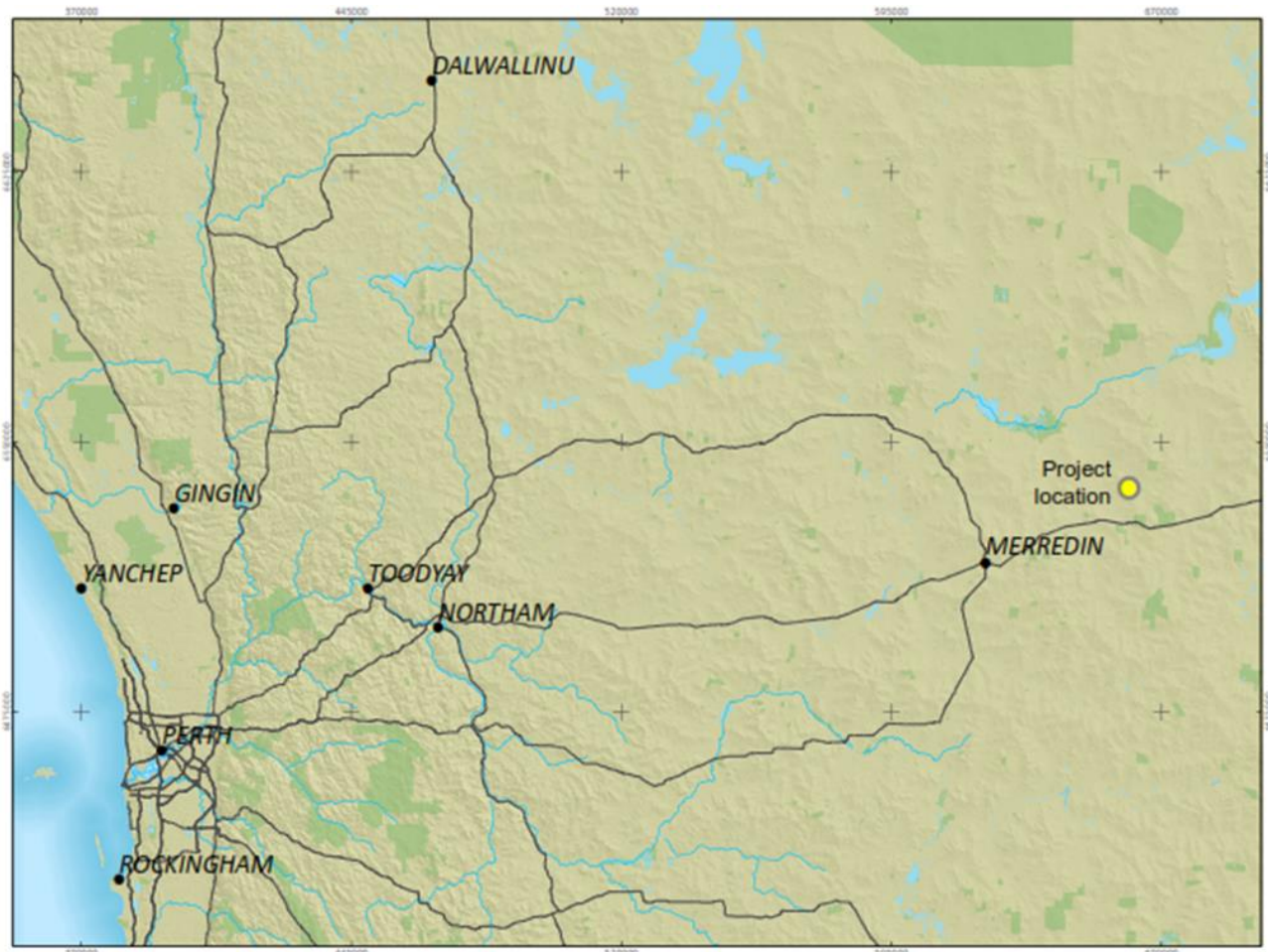


Figure 1-1: Regional map of the Edna May Gold Mine

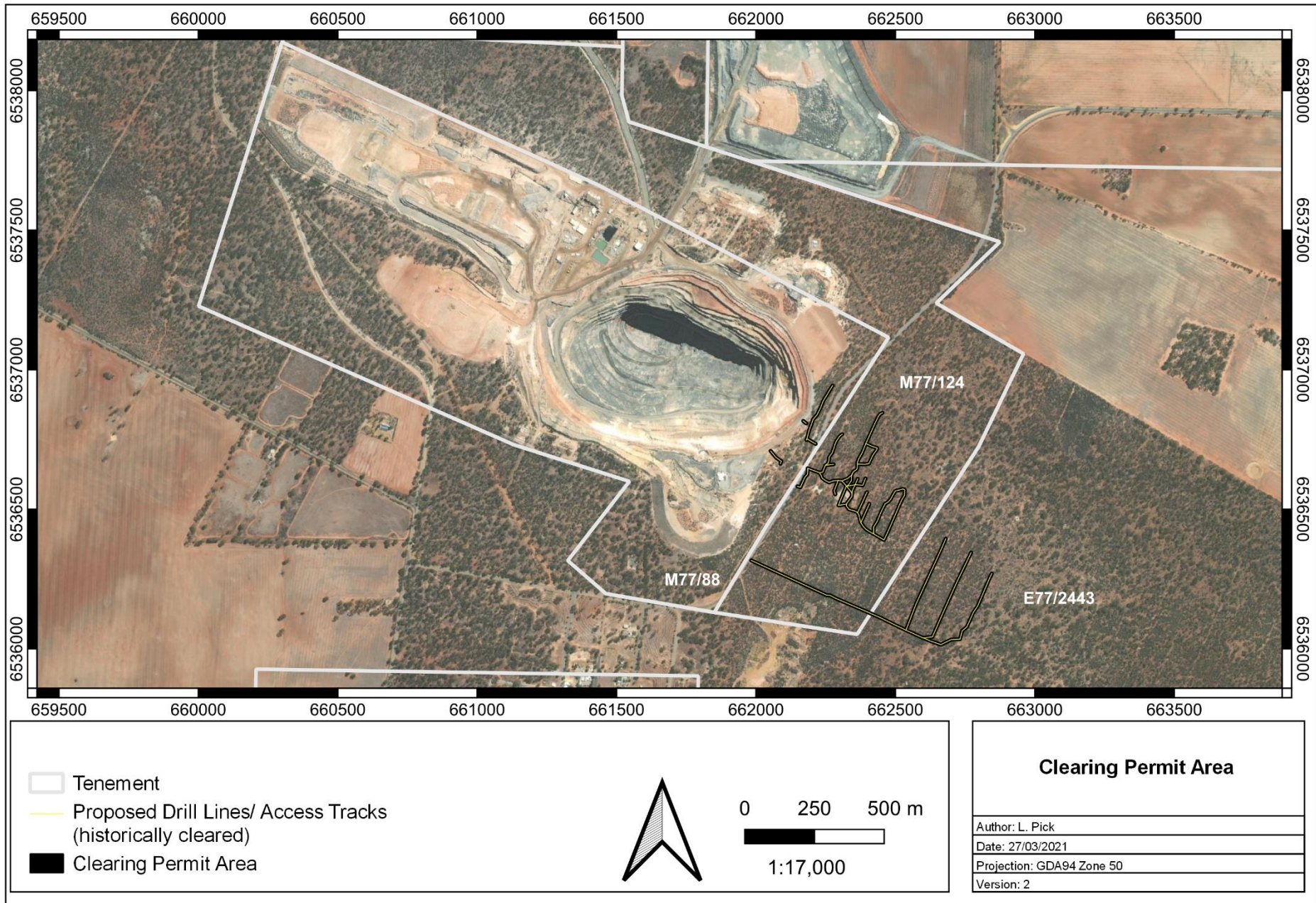


Figure 1-2: Permit Area within Tenements E77/2443, M77/88 & M77/124

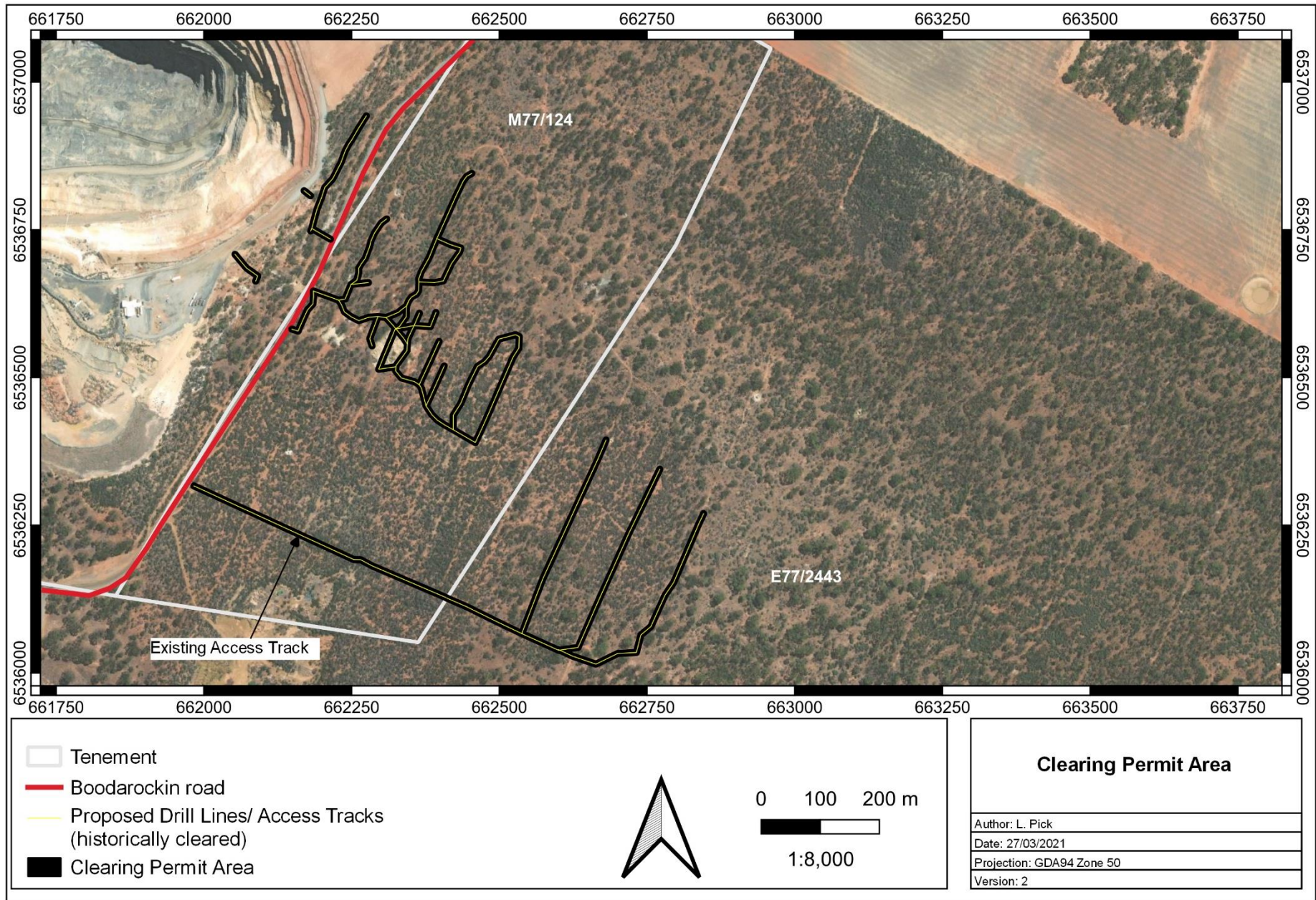


Figure 1-3a: Permit Area and site access roads

## 1.1 Golden Point Exploration Programme

The proposed Golden Point exploration programme will involve RC drilling along historically cleared drill lines, which range from 3m to 5m width. Example images of the historically cleared drill lines within the different vegetation types/habitats of the Clearing Permit Area (which are described in more detail in Section 2.6 and 2.7) is provided below in Plate 1. Drill lines will be accessed via the existing Shire road (Boodarockin Road) and an existing access track which extends to the east from this road (see Figure 1-2a). The drill pads will be established along the length of existing drill lines/ access tracks where possible to minimise disturbance to vegetation. Drill holes are proposed to be drilled between depths ranging from 60m to 400m with only drill holes exceeding 120m depth requiring construction of a sump (5m X 5m X 2m). Specific details on the proposed drilling programme will be reported to DMIRS as part of Program of Works applications. All exploration activities will be managed in accordance with the *Edna May Project Conservation Management Plan for Exploration (Westonia Common) Version 2* (provided in Appendix A).

The proposed Clearing Permit Area being applied for is 4.2 ha which encompasses a 5m wide area either side of the centre line of all the proposed drill lines, inclusive of existing cleared/ disturbed areas. The maximum area of clearing proposed within the Clearing Permit Area is 2.1 ha (including 1 ha of existing clearing/ disturbance). No direct clearing of mature Eucalypts is proposed, with clearing within Eucalypt woodland vegetation limited to driving over regrowth/ groundcover herbs along existing access tracks/ drill lines and trimming of any overhanging branches to allow for safe access.



**Eucalypt Woodland (50 J 662736 6536034)**



**Eucalypt Woodland (50 J 662665 6536122)**



**Eucalypt Woodland (50 J 662499 6536086)**



**Eucalypt Woodland (50 J 662215 6536635)**





**Eucalypt Woodland (50 J 662443 6536720)**



**Melaleuca/ Acacia Scrub (50 J 662538 6536069)**



**Acacia/ Melaleuca Scrub (50 J 662475 6536554)**



**Mallee Woodland (50 J 662443 6536350)**

**Plate 1-1: Example images of historic drill lines to be utilised for the Golden Point exploration programme**

## 2 Existing Environment

### 2.1 Regional Setting

The Project occurs in the Avon Wheatbelt Bioregion (Figure 2-1), as defined by the Interim Biogeographic Regionalisation for Australia (IBRA) classification system (McKenzie, 2003). The region is divided into two major components: the Merredin subregion (AW1) and the Katanning subregion (AW2). The Project lies within the Merredin subregion which is characterized by gently undulating landscapes of low relief; proteaceous scrub heaths on residual lateritic uplands and mixed woodlands on quaternary alluvial soils. The Avon Wheatbelt Bioregion has been extensively cleared for agriculture and grazed by stock.

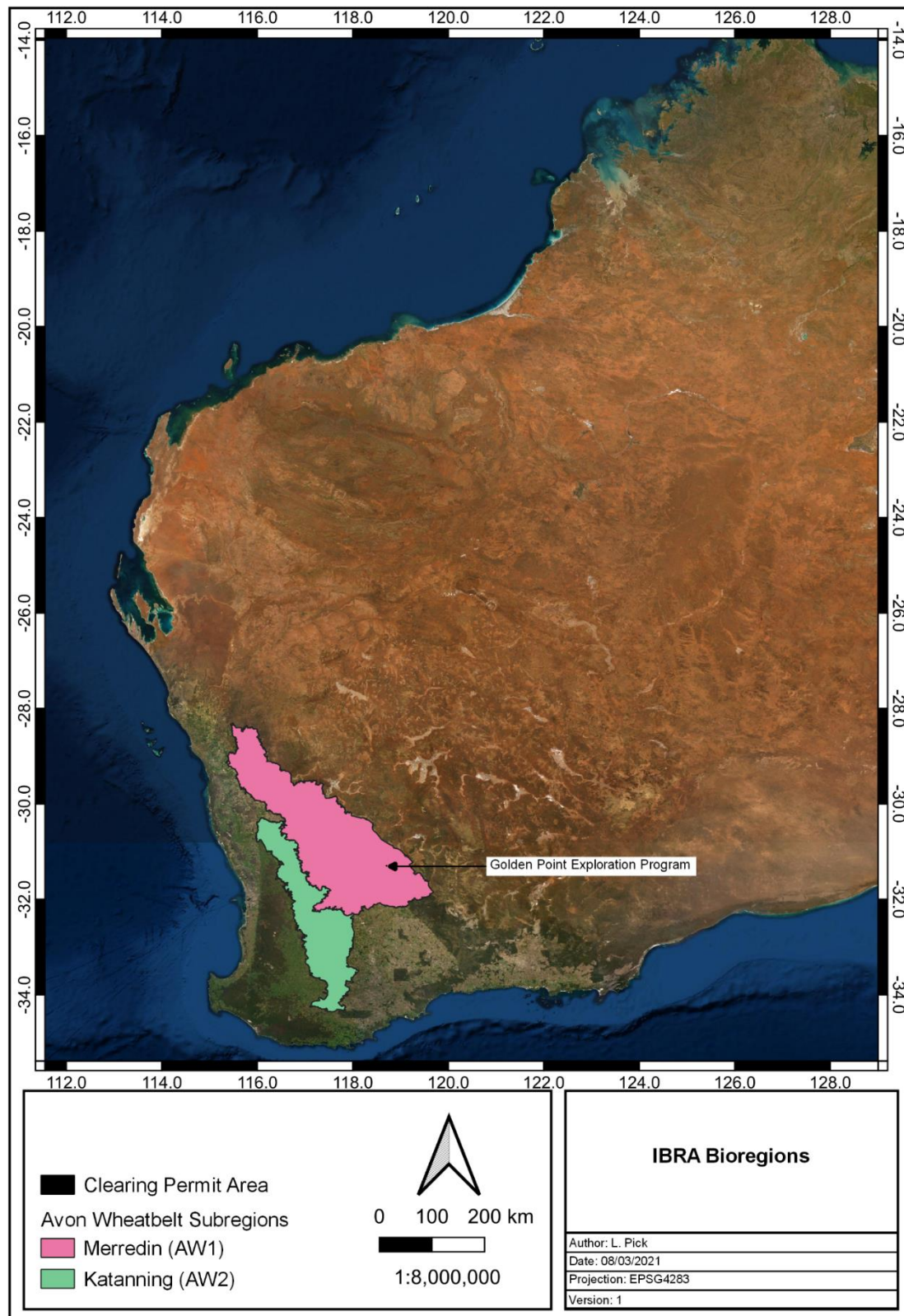


Figure 2-1: Map of IBRA bioregions in relation to the Golden Point exploration programme

## 2.2 Climate

The climate of the Merredin subregion is characterised as semi-arid warm Mediterranean and is characterised by hot dry summers and wet winters (Beard, 1990; Beecham, 2001). Rainfall data for the Westonia weather station (#12083), located approximately 1 km south-east of the Project, is shown in Figure 2-2 (BoM, 2021). The Westonia annual average rainfall is 331mm (BoM, 2021). Pan evaporation rates for the area are estimated to be more than 2,000mm/year. Average monthly evaporation exceeds average monthly rainfall in every month of the year (BoM, 2021).

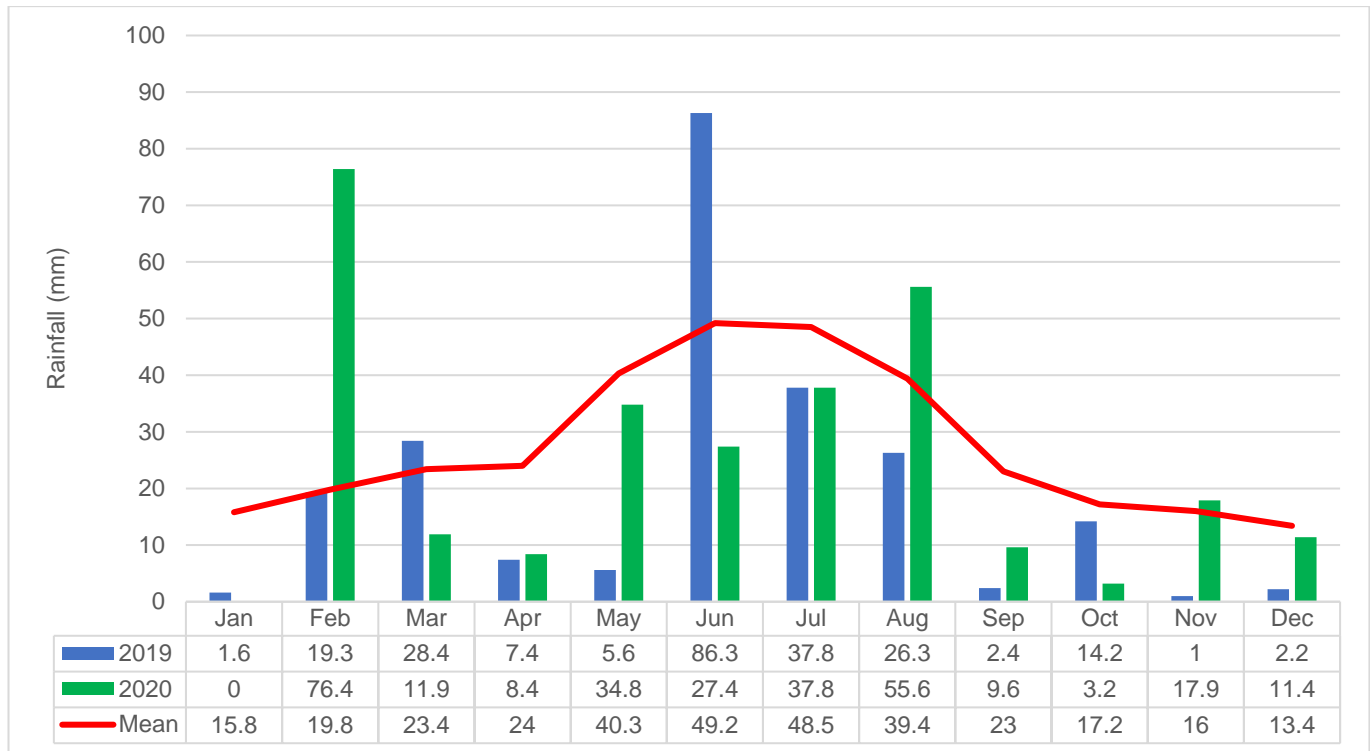


Figure 2-2: Rainfall Data (2019-2020) for the Westonia weather station (#12083) (BoM, 2021)

## 2.3 Soils and Landscape Systems

The Project lies within the Avon Province, which consists of a laterised plateau (dissected at fringes and with saline drainage lines inland) on deeply weathered mantle and alluvium over granitic rocks of the Yilgarn Craton (and Albany-Fraser Orogen). Soils comprise of sandy duplexes soils and ironstone gravelly soils with loamy earths, loamy duplexes, sandy earths, deep sands and wet soils. Vegetation comprises of York gum-wandoo-salmon gum-morrel gimlet woodland and jarrah-marri-karri-wandoo woodlands/forests (with some mallee scrub, tammar-wodjil thickets and scrub-heath) (Tille, 2006).

The Avon province is further divided into two soil-landscape zones, with the survey area located within the Northern Zone of Ancient Drainage (258). This zone is characterised by gently undulating terrain (with some sandplains and salt lakes chains) on deeply weathered mantle and alluvium over granitic rocks of the Yilgarn Craton. Soils comprise of sandy earths (mostly yellow and red), loamy earths (often calcareous), sandy duplexes, loamy duplexes, deep sands and ironstone gravelly soils. Vegetation comprises of Salmon gum-gimlet-morrel-wandoo-York gum woodlands with mallee scrub (and some acacia-casuarina thickets, scrub-heath and samphire flats) (Tille, 2016). The Northern Zone of Ancient Drainage is further divided into soil landscape systems with the Clearing Permit Area located within two soil landscape systems as shown in Table 2-1 and Figure 2-3 (ASRIS, 2014).

Table 2-1: Soil Landscape Systems within the Clearing Permit Area

Soil Landscape System	Mapping Unit Code	Description
Baladjie System	258Ba	Valley floors and lower slopes, in the northern Zone of Ancient Drainage, with calcareous loamy earth and alkaline red loamy duplex (mostly shallow). Woodland.
Holleton System	258Hn	Lateritic sandplain and other soil formations on low isolated often mafic hills. Large scale configuration of landscapes reflects underlying geological structures

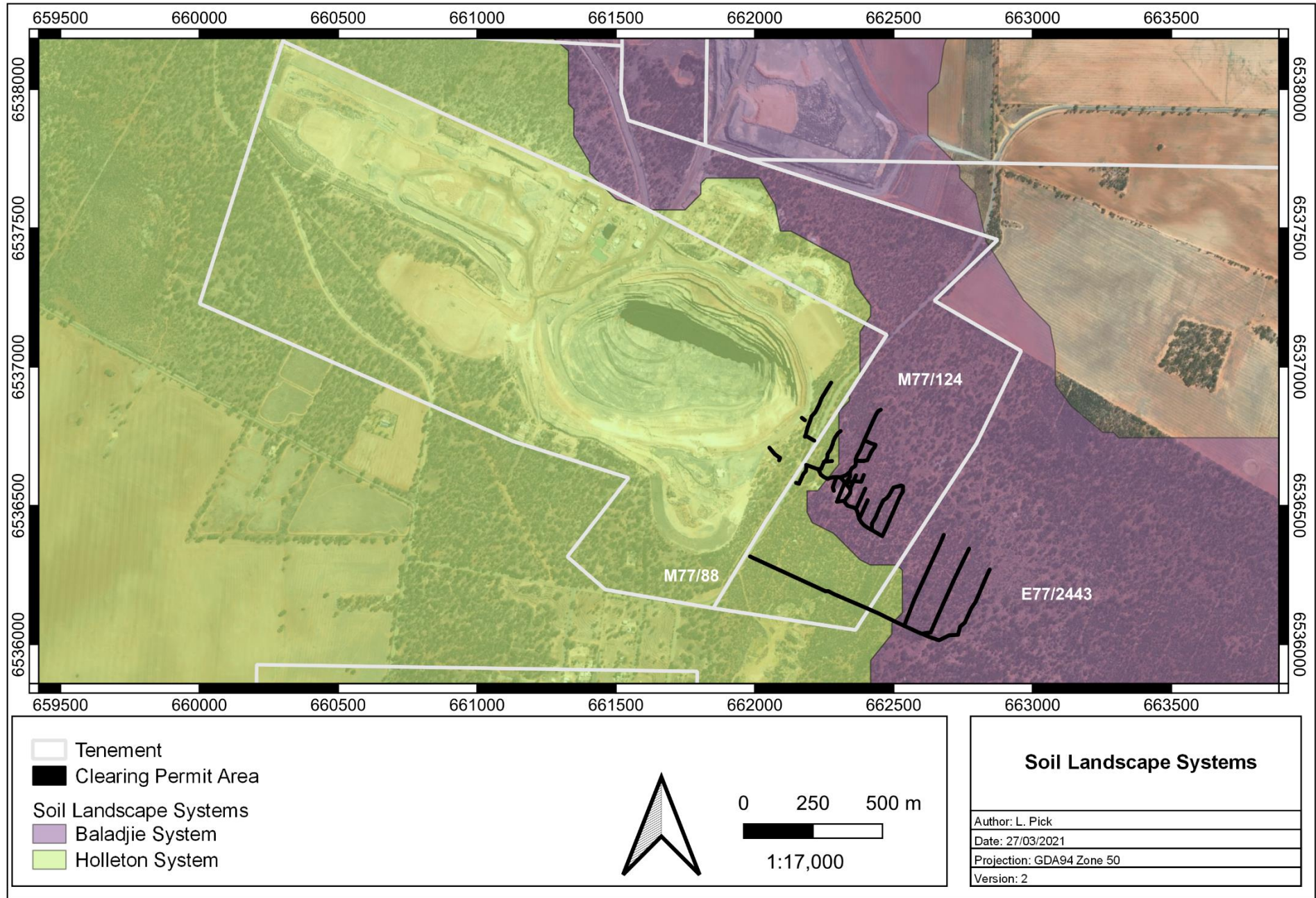


Figure 2-3: Map of Soil Landscape Systems within the Clearing Permit Area

## 2.4 Hydrology

The Edna May site is located across the floor of an up-lying, sub-regional valley at an elevation of about 345 m AHD. The regional catchment divide is at about 430 m AHD and is about 13 km to the south-east at its closest point. Drainage is to the northeast and normally terminates 35 km to the northwest at Lake Campion - Lake Brown (elevation 280 m).

According to the Geoscience Australia Global Map Australia 1M 2015 database, there are no defined drainage lines (either perennial and ephemeral) or inland water within the Golden Point exploration programme. The nearest surface water features are two salt lakes located 35 km to the north-west of the site: Lake Campion and Lake Brown (Figure 2-4). The largest surface water flows in the area are produced after short, high-intensity rainfall events during the summer.

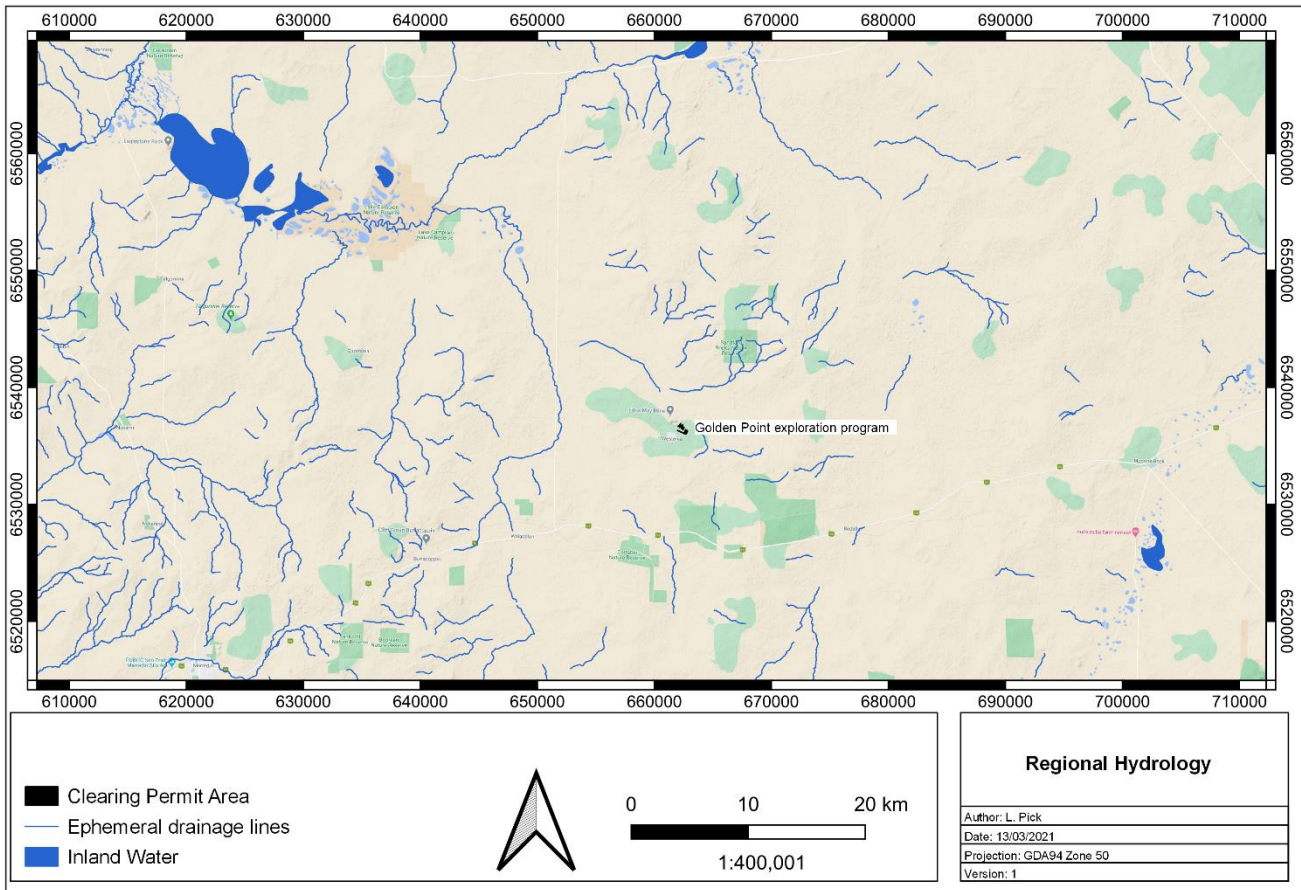


Figure 2-4: Regional Surface Hydrology

## 2.5 Westonia Common

The Westonia Common (R14983) covers an area of approximately 2,208 ha as shown Figure 2-5. The Westonia Common consists of Crown Reserves and Unallocated Crown Land vested in the Shire of Westonia. The vested land use purposes of the reserves include: 'commonage' (pasturing of livestock), an old racetrack, timber harvesting, gravel/sand extraction, and an airstrip (EcoLogical Australia, 2016). The Westonia Common is considered important as it "contains one of the largest 'reserved' red morrel (*Eucalyptus longicornis*) woodlands within the Intensive Land Use Zone (ILUZ) in Southwest Australia (EcoLogical, 2016). The large size, good condition, and Eucalypt vegetation association makes the Westonia Common biologically significant, and extremely valuable for conservation (McLellan, 2008).

Approximately 3.8 ha<sup>1</sup> of the Clearing Permit Area is located within the north-eastern edge of the Westonia Common (Figure 2-5) which represents 0.17% on the total extent of the Westonia Common. The maximum clearing proposed within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance) which represents 0.1% of the total extent of the Westonia Common.

Potential for significant edge effects on the Westonia Common are limited with the clearing proposed being restricted to the areas of existing disturbance/ adjacent to existing disturbance (*i.e.*, within area of existing exploration, adjacent to existing road (Boodarockin Road), and Edna May mine). Weed and disease hygiene measures will be in place during exploration activities with all exploration to be managed in accordance with the *Edna May Project Conservation Management Plan for Exploration (Westonia Common) Version 2* (provided in Appendix A).

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<sup>1</sup> includes 1.0 ha of previously cleared land

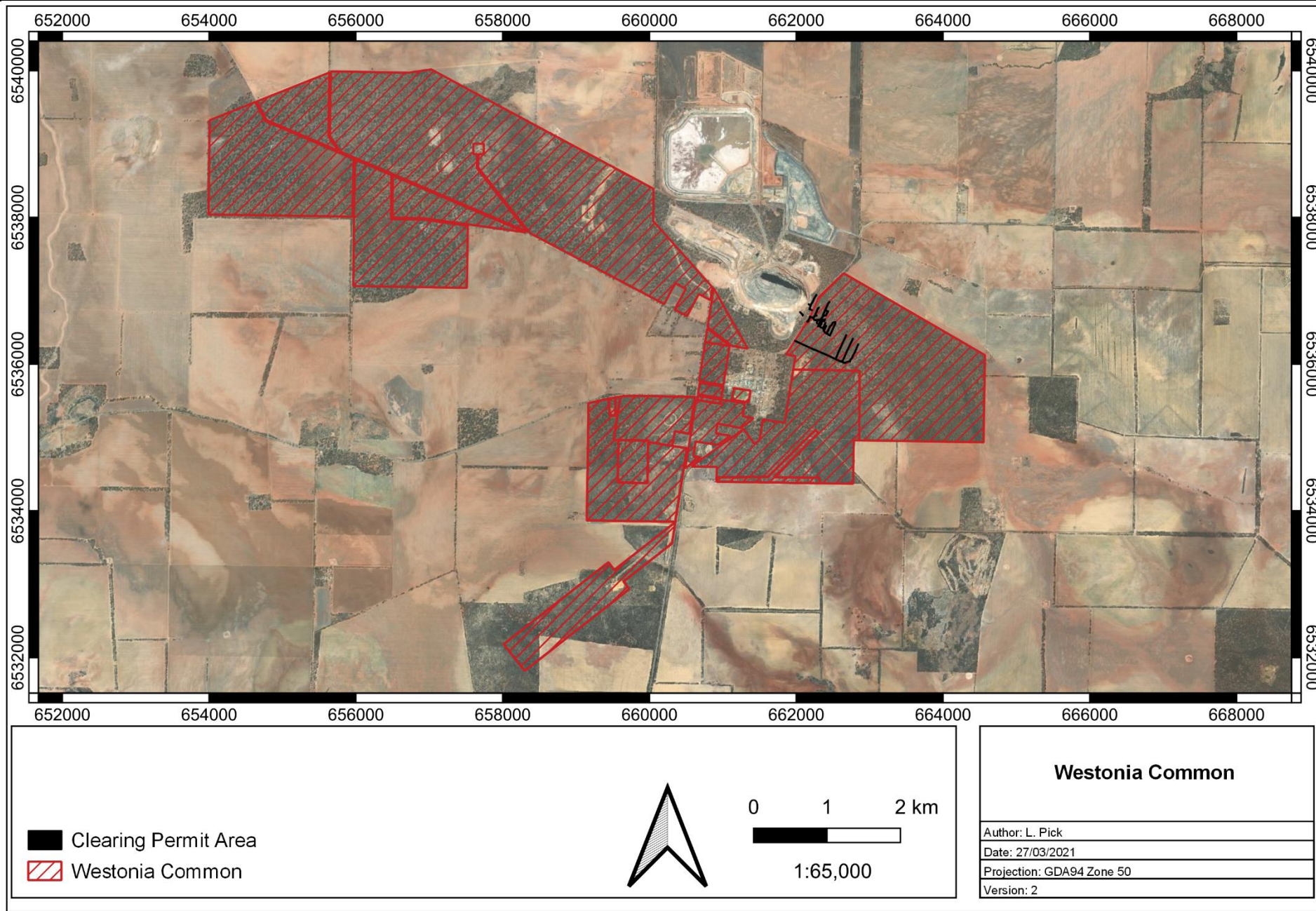





Figure 2-5: Westonia Common in relation to the Clearing Permit Area

## 2.6 Vegetation and Flora


Targeted flora and vegetation surveys of the Golden Point exploration programme have been conducted by Botanica Consulting (2020) and Phoenix Environmental Services (2018) with a copy of these reports provided in Appendix B. These target surveys follow on from previous detailed flora and vegetation surveys conducted within the Edna May and Greenfinch area by MWH (2014) which is provided in Appendix B.

Native vegetation covers approximately 2.9 ha of the Clearing Permit Area as shown in Figure 2-6 and Table 2-2. The remaining area (1.2 ha) consists of cleared and degraded areas. A maximum of 2.1 ha is proposed to be cleared within the Clearing Permit Area (inclusive of 1 ha of existing clearing/ disturbance).

**Table 2-2: Vegetation Types within the Clearing Permit Area**

Vegetation Types	Image	Clearing Permit Area	
		Ha area	%
<i>Eucalyptus loxophleba</i> Mallee Woodland		1.0	23.1
<i>Eucalyptus salubris</i> Woodland		1.6	38.5
<i>Melaleuca/ Acacia</i> Scrub		0.4	9.1



Vegetation Types	Image	Clearing Permit Area	
		Ha area	%
Disturbed Area (CV)		1.2	29.3
<b>Total</b>		<b>4.2</b>	<b>100</b>

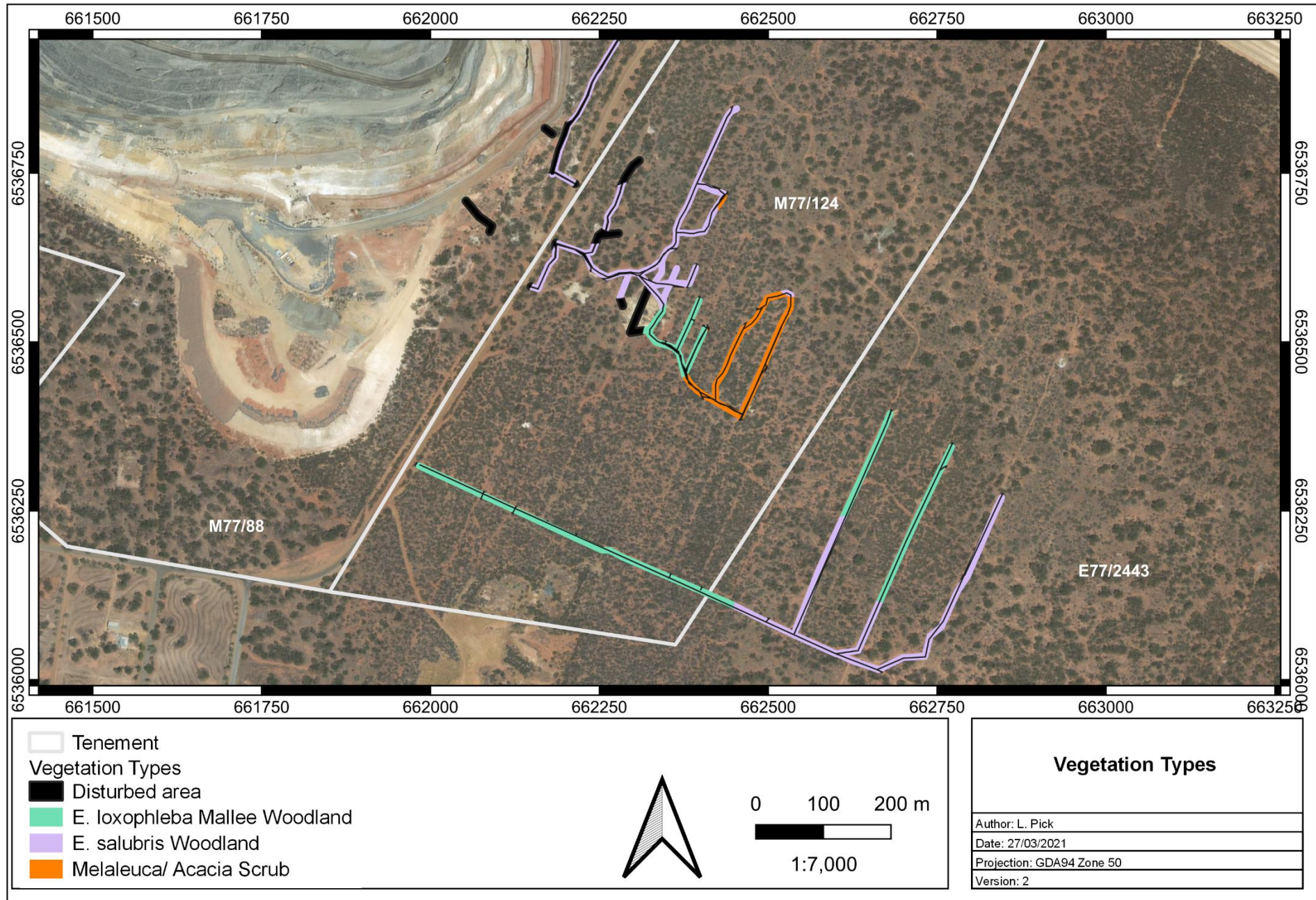


Figure 2-6: Vegetation types within the Clearing Permit Area

### 2.6.1 Significant Flora

According to the EPA *Environmental Factor Guideline for Flora and Vegetation* (EPA, 2016b) flora of conservation significance 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
- flora with relictual status, being representative of taxonomic groups that no longer occur widely in the broader landscape.

There is no evidence of locally endemic flora, new or unusual species, relictual species, species representative of range extensions, or surface/groundwater dependent ecosystems identified within the Clearing Permit Area. No Threatened Flora taxa pursuant to the *Biodiversity Conservation (BC) Act 2016* and the Commonwealth *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999* are located within the Clearing Permit Area (Figure 2-7). No Priority Flora taxa were identified within the Clearing Permit Area.



Figure 2-7: Threatened Flora locations in relation to the Clearing Permit Area

Habitat critical to the survival of *E. resinosa* includes the area of occupancy of extant populations, areas of similar habitat (*i.e.*, sandy loams, clays, and loams supporting open mallee woodland with mixed *Acacia* scrub understorey (DEC, 2008). No *E. resinosa* populations are located within the Clearing Permit Area and the proposed clearing has been designed to minimise clearing of potential *E. resinosa* habitat.

To date, habitat critical to the survival of *Eremophila resinosa* has not been mapped by DBCA, which is listed as a recovery action in the Interim Recovery Plan (DEC, 2008)<sup>2</sup>. Based on the description provided in the Interim Recovery Plan, Botanica Consulting have mapped the area of critical habitat including the area of occupancy for extant populations (referred to as 'critical habitat'), area of similar habitat surrounding important populations (referred to as 'important habitat-habitat between populations') and 'important habitat-translocation populations' in order to assess the potential impact on critical habitat. For records of *Eremophila resinosa* located within roadside native vegetation corridors, critical habitat was mapped as a 50 m radius of each plant record (consistent with the boundary used by DBCA for Environmentally Sensitive Areas surrounding Threatened Flora plants). The area of habitat critical to survival of *E. resinosa* is shown in Table 2-3 and Figure 2-8 below. Based on the mapped habitat, no critical habitat (*i.e.*, area of occupancy for extant populations) is located within the Clearing Permit Area. Approximately 2.9 ha of the Clearing Permit Area contains important habitat (suitable vegetation between populations) which represents a maximum of 0.07% of the total extent of important habitat. This is based on the total extent of native vegetation within the Clearing Permit area, including vegetation that is not considered to be representative of suitable habitat for *E. resinosa* described by DBCA (*i.e.*, sandy loams, clays, and loams supporting open mallee woodland with mixed *Acacia* scrub understorey). The maximum clearing proposed within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance).

**Table 2-3: *Eremophila resinosa* Critical habitat**

Habitat	Area (ha)	Area within permit area (ha)	% impact
Critical Habitat (area surrounding populations)	2,080	0	0
Important Habitat (translocation populations)	17	0	0
Important Habitat (suitable vegetation between populations)	3,974	2.9	0.07
<b>Total habitat</b>	<b>6,071</b>	<b>2.9*</b>	<b>0.07</b>

\* Represents total extent within the Clearing Permit Area. The maximum proposed clearing within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance)

<sup>2</sup> DEC (2008), Interim Recovery Plan No. 266 Resinous Eremophila (*Eremophila resinosa*) Interim Recovery Plan 2008-2013. Department of Environment and Conservation.

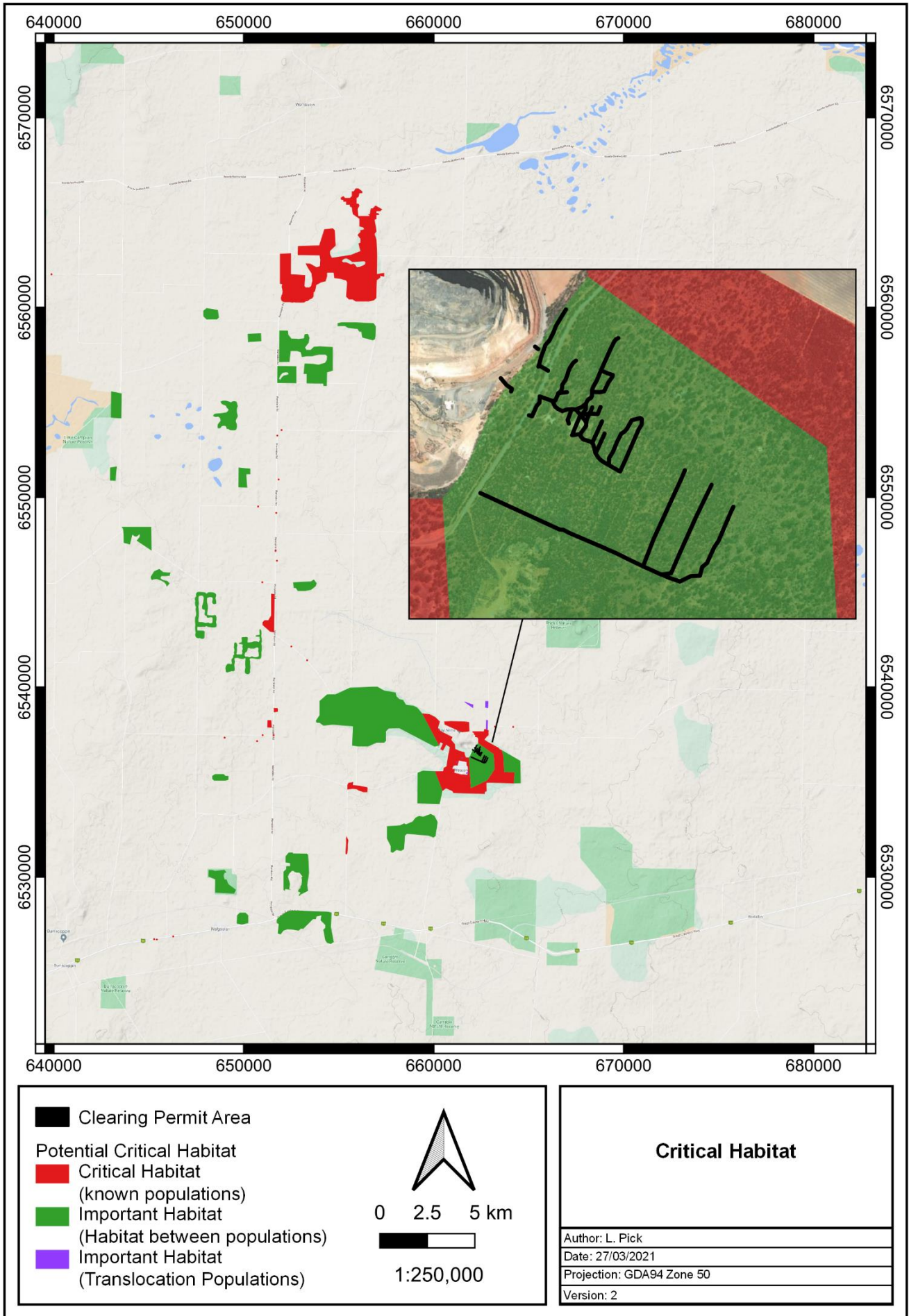


Figure 2-8: *Eremophila resinosa* Critical Habitat

The area that the exploration programme is located has been previously disturbed by historic mining activities and exploration and there are no populations of *E. resinosa* within the Clearing Permit Area. Previous approvals were granted for the removal of 323 plants from Population A and B (approved under DRF permit/clearing permit CPS4959/1 and CPS4959/2) which included clearing of 12.2 ha of native vegetation surrounding the Threatened Flora population. Despite the previous clearing involving a high number of *E. resinosa* plants and direct clearing of Threatened Flora habitat, there has been no detrimental impacts to the existence of this plant species within the local area.

In conclusion, EMO believes it does not pose an increased threat to fragmentation of habitat or place existing populations of *E. resinosa* at risk of indirect and secondary impacts as a result of this proposal. Furthermore, the company will continue to work with DBCA in conjunction with the Yilgarn District Threatened Flora Recovery Team (YDTFRT) to evaluate and manage *E. resinosa* populations surrounding the Edna May Gold Mine in accordance with the aims of the Department's Interim Recovery Plan for this species.

### 2.6.2 Significant Vegetation

According to the EPA *Environmental Factor Guideline for Flora and Vegetation* (EPA, 2016b) vegetation of conservation significance 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
- vegetation providing an important function required to maintain ecological integrity of a significant ecosystem.

Published vegetation maps sourced from DAWE (2016) and DBCA ecological communities database searches (2018a) show an EPBC-listed Threatened Ecological Community (TEC), 'Eucalypt woodlands of the Western Australian Wheatbelt', as occurring in the area proposed for the Golden Point exploration programme (Figure 2-9 and Figure 2-10).

Assessment of the flora and vegetation survey results for the Golden Point exploration programme (Botanica, 2020) against the TEC diagnostic key are provided in Table 2-4. Based on this assessment, one vegetation type within the Clearing Permit Area is representative of TEC vegetation as shown in Figure 2-11.

Approximately 1.6 ha of the Clearing Permit Area contained Eucalypt woodland of 'good' condition (*E. salubris* woodland) with patch size/ species consistent with the TEC criteria. The extent of the TEC within the Clearing Permit Area comprises approximately 0.07% of the total extent of the TEC within the local area (i.e. within the Westonia Common) (Table 2-4). The maximum proposed clearing within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance) with no direct clearing of mature Eucalypts proposed with clearing within Eucalypt woodland vegetation limited to driving over regrowth/ groundcover herbs along existing access tracks/ drill lines and trimming of any overhanging branches to allow for safe access.

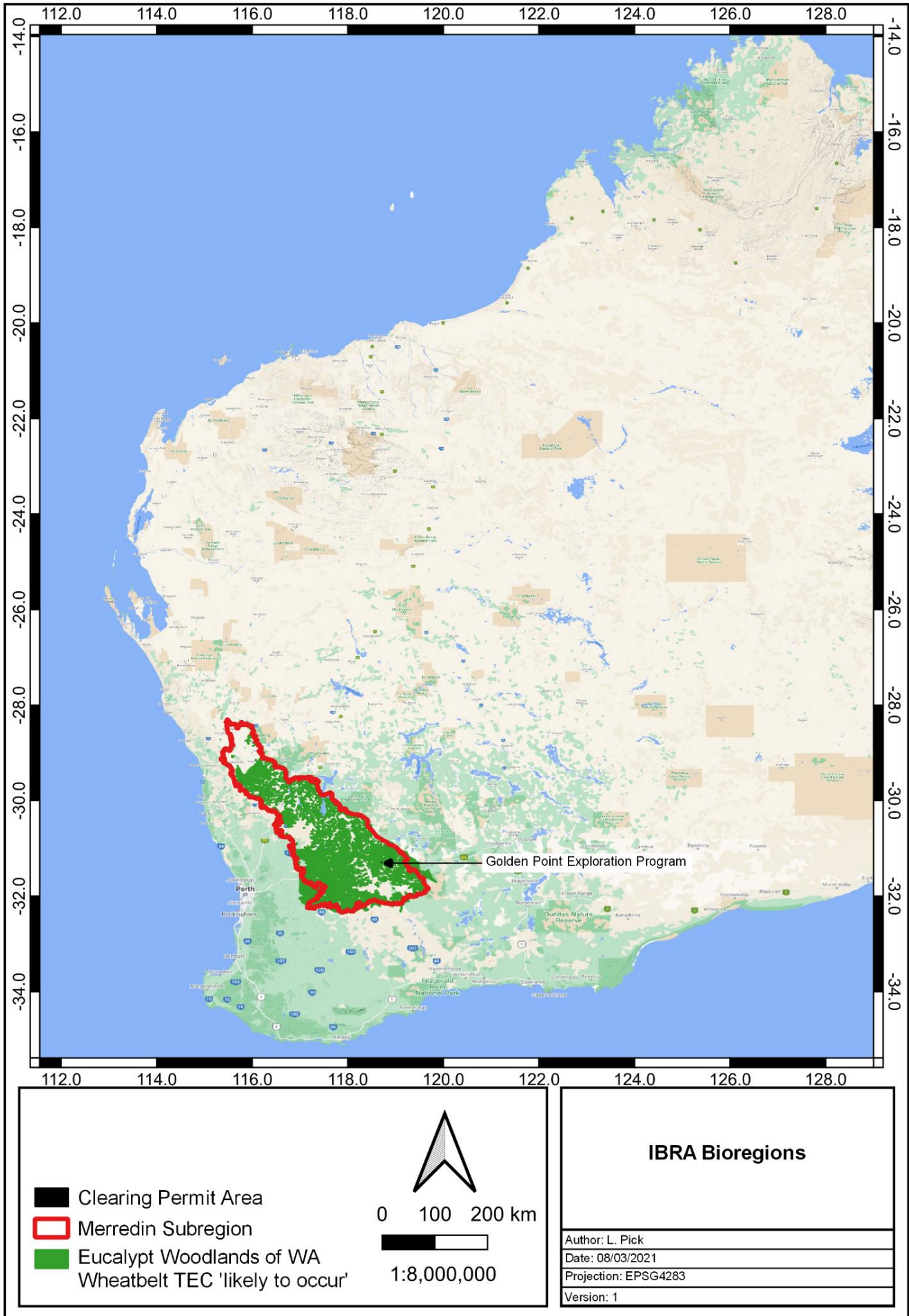


Figure 2-9: Regional map of 'Eucalypt woodlands of the Western Australian Wheatbelt' TEC



Table 2-4: Assessment of Golden Point exploration programme vegetation against TEC Diagnostic Criteria

TEC Diagnostic Criteria	Description	Assessment
Diagnostic 1 Location	Survey located within one of the following three regions: 1. Avon Wheatbelt bioregion - subregions AVW01 Merredin and AVW02 Katanning 2. Mallee bioregion - MAL02 Western Mallee only 3. Jarrah Forest bioregion <b>If within any of the above regions continue to Diagnostic 2</b>	All vegetation units meet Diagnostic 1.
Diagnostic 2 Minimum crown canopy	1. The structure of the ecological community is a woodland in which the minimum crown cover of the tree canopy in a mature eucalypt woodland is 10% 2. Crown cover of trees less than 10% but area recently disturbed (e.g. fire), presence of seedlings and/or saplings. <b>If vegetation meets any one of the structure description above continue to Diagnostic 3</b> Crown cover of trees less than 10%, no evidence of recent disturbance, no presence of seedlings or saplings- <b>NOT TEC</b>	<i>Eucalyptus salubris</i> vegetation unit meets Diagnostic 2. Remaining vegetation units do not meet Diagnostic 2 (not woodland).  <i>E. loxophleba</i> Mallee Woodland <b>NOT TEC</b> Melaleuca and Acacia Scrub <b>NOT TEC</b>
Diagnostic 3 Dominant <i>Eucalyptus</i> tree canopy	1. One or more of the key tree species in Table 1 are dominant or co-dominant, the trees are predominantly single trunked, not mallee (multi-stemmed). 2. Other species are present in the tree canopy (e.g. species in Table 2 or other taxa) but these collectively do not occur as dominants in the tree canopy. 3. Dominant woodlands with a mallee subcanopy (lower tree layer of mallee or non-eucalypt tree species). Upper eucalypt tree canopy must be present dominated by key woodland species in Table 2 and have cover of 10% or more. <b>If dominant vegetation meets any one of the descriptions above continue to Diagnostic 4</b>  Other species are present in the tree canopy (e.g. species in Table 2 or other taxa) and these collectively do occur as dominants in the tree canopy- <b>NOT TEC</b>	<i>Eucalyptus salubris</i> vegetation unit meets Diagnostic 3 ( <i>Eucalyptus salubris</i> dominant).
Diagnostic 4 Native understorey	1. A native understorey is present but is of variable composition, being a combination of grasses, other herbs and shrubs. A list of key species is summarised in Table 3. Any one of the structural understorey categories may or may not be present. Bare to sparse understorey (e.g. under some mallee woodlands). 2. Herbaceous understorey – a ground layer of forbs and/or graminoids though a few, scattered shrubs may be present. 3. Scrub or heath understorey – comprises a mixture of diverse shrubs of variable height and cover. A ground layer of herbs and grasses is present to variable extent. 4. Chenopod-dominated understorey – a subset of the scrub category in which the prominent species present are saltbushes, bluebushes and related taxa (e.g. <i>Atriplex</i> , <i>Enchylaena</i> , <i>Maireana</i> , <i>Rhagodia</i> and <i>Sclerolaena</i> ). 5. Thickets of taller shrub species understorey (e.g. <i>Melaleuca pauperiflora</i> , <i>M. acuminata</i> , <i>M. uncinata</i> , <i>M. lanceolata</i> , <i>M. sheathiana</i> , <i>M. adnata</i> , <i>M. cucullata</i> and/or <i>M. lateriflora</i> , <i>Allocasuarina campestris</i> with <i>Melaleuca hamata</i> or <i>M. scalena</i> ). A range of other shrub and ground layer species may occur among or below the thickets. 6. Salt tolerant species understorey (e.g. samphire, <i>Tecticornia</i> spp.). <b>If native understorey meets any one of the descriptions above continue to Diagnostic 5</b> Shrublands or herblands in which the tree canopy layer is very sparse to absent, either naturally or maintained so through long-term disturbance. Native vegetation where a tree canopy was formerly present is often referred to as	<i>Eucalyptus salubris</i> vegetation unit meets Diagnostic 4 ( <i>Acacia merrallii</i> / <i>Santalum acuminatum</i> dominant understorey).

TEC Diagnostic Criteria	Description				Assessment				
	'derived' or 'secondary' vegetation. These sites would fall below the 10 per cent minimum canopy cover threshold for a woodland- <b>NOT TEC</b>								
Diagnostic 5 Vegetation condition	<table border="1"> <tr> <td data-bbox="322 252 741 341">Cover of exotic plants (weeds) AND</td> <td data-bbox="741 252 1061 341">Mature trees<sup>1</sup> AND</td> <td data-bbox="1061 252 1296 341">Minimum patch size (non-roadside patches)<sup>2</sup> OR</td> <td data-bbox="1296 252 1532 341">Minimum patch width (roadsides only)<sup>3</sup></td> </tr> </table>				Cover of exotic plants (weeds) AND	Mature trees <sup>1</sup> AND	Minimum patch size (non-roadside patches) <sup>2</sup> OR	Minimum patch width (roadsides only) <sup>3</sup>	<p><i>Eucalyptus salubris</i> vegetation unit meets Diagnostic 5 (Category A).</p>
	Cover of exotic plants (weeds) AND	Mature trees <sup>1</sup> AND	Minimum patch size (non-roadside patches) <sup>2</sup> OR	Minimum patch width (roadsides only) <sup>3</sup>					
	<p><i>Category A: Patches likely to correspond to a condition of Pristine / Excellent / Very good (Keighery, 1994) or a High RCV (RCC, 2014).</i></p>								
	Exotic plant species account for 0 to 30% of total vegetation cover in the understorey layers (i.e. below the tree canopy).	Mature trees may be present or absent.	2 hectares or more	5 metres or more					
	<p><i>Category B: Patches likely to correspond to a condition of Good (Keighery, 1994) or a Medium-High RCV (RCC, 2014), AND retains important habitat features.</i></p>								
	Exotic plant species account for more than 30, to 50% of total vegetation cover in the understorey layers (i.e. below the tree canopy)	Mature trees are present with at least 5 trees per 0.5 ha.	2 hectares or more	5 metres or more					
	<p><i>Category C: Patches likely to correspond to a condition of Good (Keighery, 1994) or a Medium-High RCV (RCC, 2014).</i></p>								
	Exotic plant species account for more than 30, to 50% of total vegetation cover in the understorey layers (i.e. below the tree canopy).	Mature trees either absent or <u>less than</u> 5 trees per 0.5 ha are present.	5 hectares or more	5 metres or more					
<p><i>Category D: Patches likely to correspond to a condition of Degraded to Good (Keighery, 1994) or a Medium-Low to Medium-High RCV (RCC, 2014) BUT retains important habitat features.</i></p>									
Exotic plant species account for more than 50 to 70% of total vegetation cover in the understorey layers (i.e. below the tree canopy).	Mature trees are present with at least 5 trees per 0.5 ha.	5 hectares or more	5 metres or more						

TEC Diagnostic Criteria	Description	Assessment
	<p><sup>1</sup> Mature trees have a diameter at breast height (dbh) of 30 cm or above. Trunk diameter varies among eucalypt species, for instance gimlet and mallets tend to have slender trunks (Gosper et al., 2013b). The dbh for mature trees aligns with the EPBC referral guidelines for the breeding habitat of threatened black cockatoo species (DSEWPaC, 2012). These note that, for salmon gum and wandoo trees, suitable nest hollows can develop in trees with a dbh of 30 cm or more. Note that larger trees may be killed by factors such as intense fire or flood but the patch may still be in reasonable condition if there are immature trees regenerating.</p> <p><sup>2</sup> The minimum patch size thresholds apply to native vegetation remnants that do not occur along roadsides.</p> <p><sup>3</sup> Minimum patch width applies only to vegetation remnants along roadsides and tend to be long but narrow. This criterion recognises the importance of native vegetation remnants along road verges, e.g their value as wildlife corridors particularly if linking to other non-roadside remnants, habitat for threatened species and other reasons as detailed by Jackson (2002) and RCC (2015). The width here is based on the native understorey component rather than width of the tree canopy. Some allowance must be made for small breaks or variations in native species cover along linear patches. Given the generally open nature of the tree canopy and some understorey structures, a break in the continuity of native vegetation cover of 50 metres or more, is likely to indicate that separate patches are present. An exception is for main, often bitumen-covered, roads that bisect otherwise continuous vegetation; most local government roads in the wheatbelt have a road reserve of 20 metres. In these cases, native vegetation along either side of the road is considered to be a separate patch.</p>	

**Table 2-5: Extent of Threatened Ecological Community within the Clearing Permit Area**

Vegetation Types	Total Vegetation within Permit Area (ha)	Total Vegetation representative of TEC within Permit Area (ha)	Total TEC within local area (Westonia Common) (ha)	% Impact within local area
<i>Eucalyptus loxophleba</i> Mallee Woodland	1.0	0	2,208	0.07
<i>Eucalyptus salubris</i> Woodland	1.6	1.6		
<i>Melaleuca/ Acacia</i> Scrub	0.4	0		
Disturbed Area (CV)	1.2	0		
<b>Total</b>	<b>4.2*</b>	<b>1.6*</b>	<b>2,208</b>	<b>0.07</b>

\* Represents total extent within the Clearing Permit Area. The maximum proposed clearing within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance). No direct clearing of mature Eucalypts is proposed with clearing within Eucalypt woodland vegetation limited to driving over regrowth/ groundcover herbs along existing access tracks/ drill lines and trimming of any overhanging branches to allow for safe access.

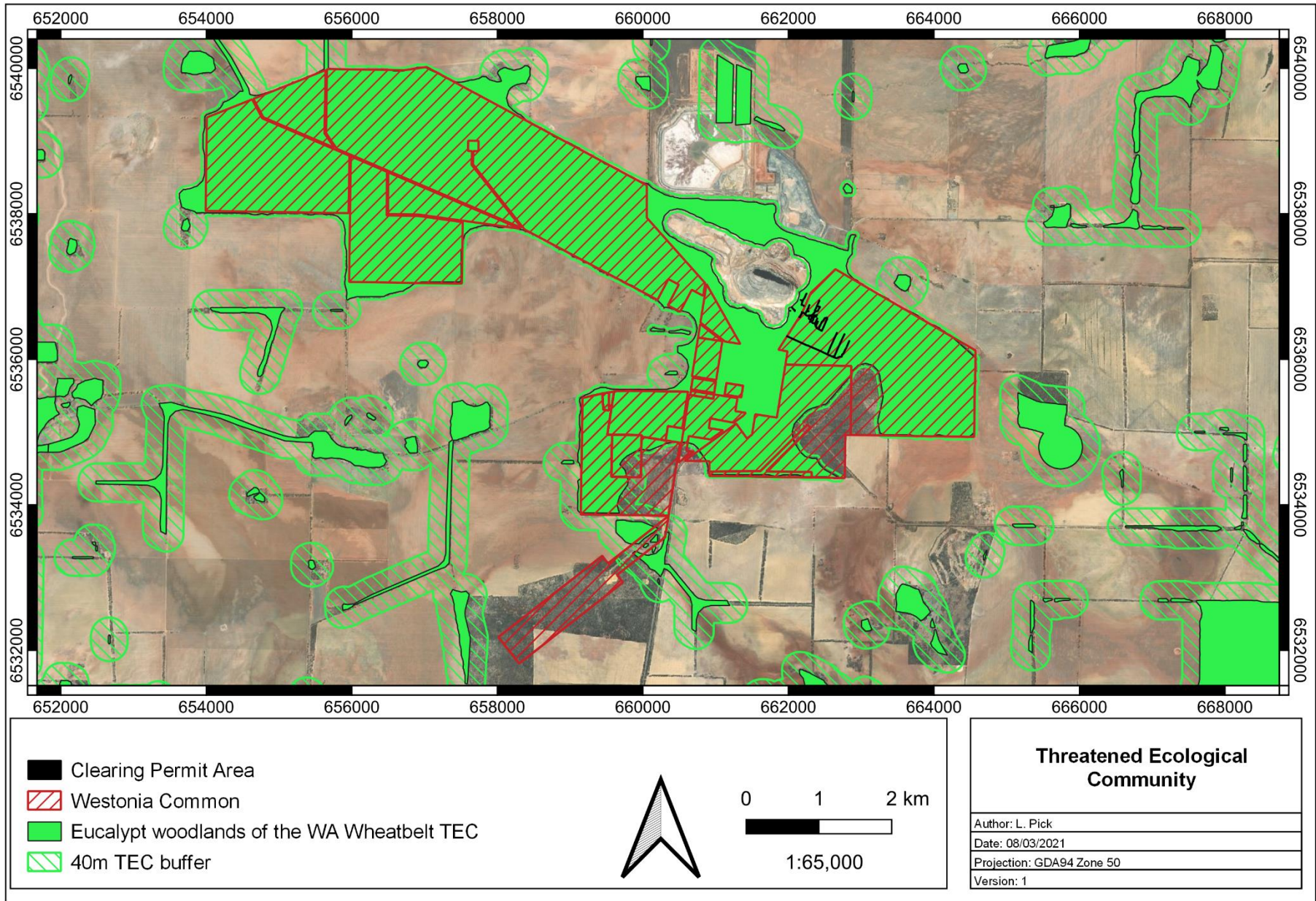


Figure 2-10: Threatened Ecological Community within the local region (including associated 40m buffer)

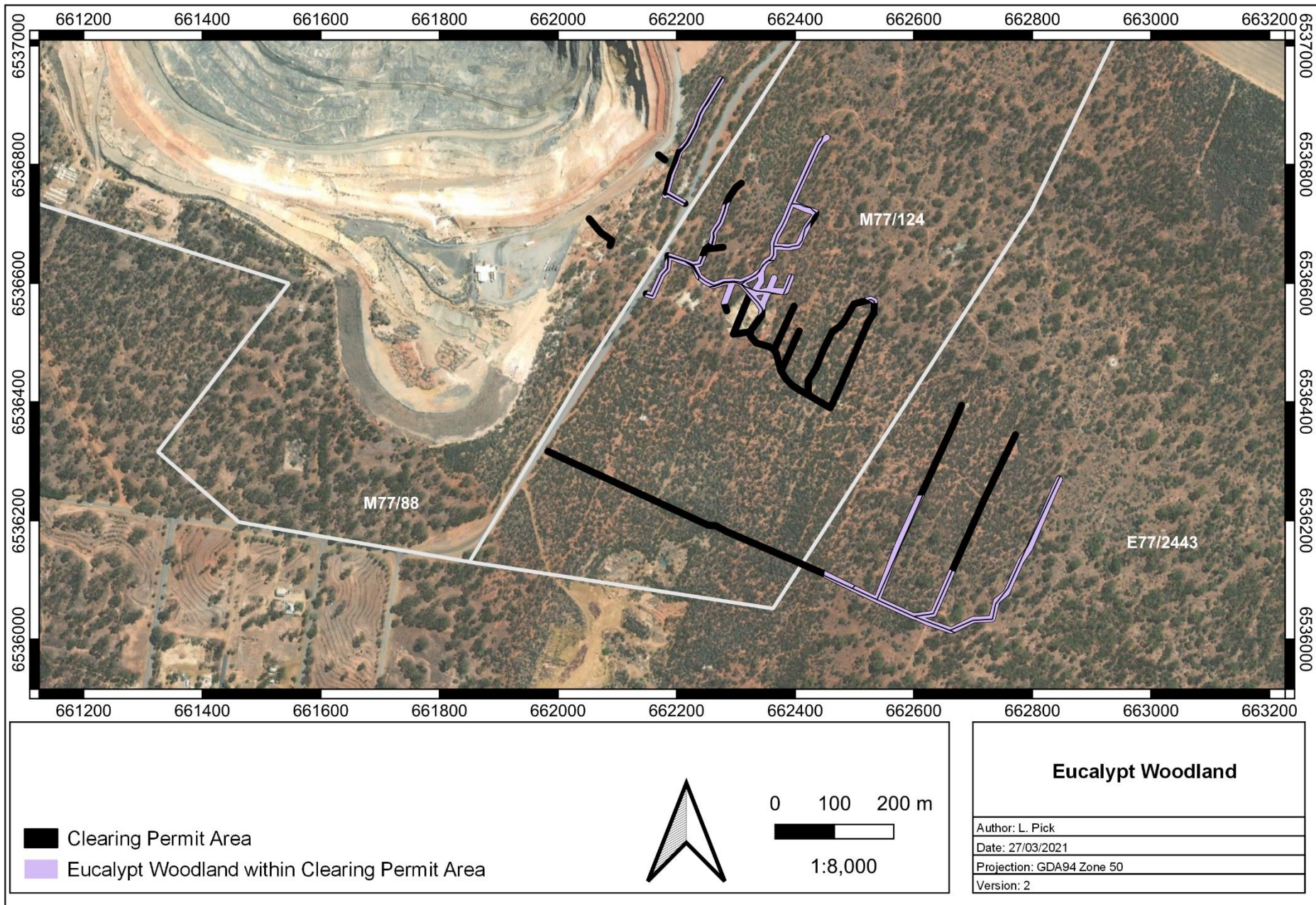


Figure 2-11: Threatened Ecological Community vegetation identified within the Clearing Permit Area

Comparative to TEC vegetation located within the greater Westonia Common (shown in Figure 2-10), the TEC vegetation within the clearing permit area is of lower quality due to its location directly abutting the operational mining areas, the degree of disturbance within this area from historic mining/ exploration disturbances and the existing Shire road which runs through the proposed Clearing Permit Area. The small degree of TEC vegetation within the Clearing Permit Area within the local Westonia area (*i.e.*, only 1.6 ha of the 2,208 ha of woodland vegetation within the Westonia Common is located within the Clearing Permit Area) is low, representing 0.07% of TEC vegetation in the local area. According to the approved conservation advice (DotEE, 2015), the current extent of this TEC is estimated at approximately 940,000 ha. The Clearing Permit Area represents 0.0004% of the total estimated extent of the TEC vegetation.

Weed and disease hygiene measures will be in place during exploration activities in accordance with the *Edna May Project Conservation Management Plan for Exploration (Westonia Common) Version 2* (Appendix A).

The vegetation type recorded for the Clearing Permit Area is representative of the broader Beard vegetation association 536 (Medium woodland; Morrel (*Eucalyptus longicornis*) and Rough-fruited Mallee (*Eucalyptus corrugata*) as shown in Figure 2-12. Vegetation association 536 still occupies over 30% of its pre-European extent in Western Australia and in the Merredin subregion (DBCA, 2019). A summary of the potential impacts on pre-European vegetation association is provided in Table 2-6. The proposed clearing within the Clearing Permit Area (maximum of 2.1 ha, inclusive of 1 ha of existing clearing/ disturbance) represents a maximum 0.04% and 0.05% impact on the pre-European extent of Yilgarn 536 within Western Australia and the Merredin subregion respectively and will not reduce this vegetation associated below the 30% threshold.

**Table 2-6: Extent of Pre-European Vegetation Associations with the Clearing Permit Area**

Region	Pre-European extent, ha	Current extent, ha	% remaining	% current extent protected for conservation <sup>1</sup>	Maximum Clearing Proposed (ha)	% impact on current extent
<b>Vegetation Association 536 (Yilgarn)</b>						
Western Australia	13,178	5,433	~41.23	9.82	2.1 <sup>2</sup>	0.04
Merredin Subregion	11,171	3,970	~35.54	11.58		0.05

Note: 1) IUCN categories 1 – IV; 2) Includes 1 ha of previous clearing.



Figure 2-12: Pre-European Vegetation Associations in relation to the Clearing Permit Area



## 2.7 Fauna

A Level 1 fauna assessment, comprising a desktop review of publicly available information and field surveys of terrestrial vertebrate and invertebrate fauna in October 2013 and June 2014, was completed by MWH for the Enda May and Greenfinch Projects which encompassed the Golden Point exploration programme area (MWH, 2014). A copy of the report is provided in Appendix B. Earlier fauna assessments undertaken in connection with the Edna May gold project include surveys of birds and other terrestrial vertebrates in 2002 (Bamford, 2002; Simmons, 2002). Four broad fauna habitat types were identified during the Level 1 fauna assessment:

1. Shrubland dominated by Acacia and Melaleuca spp.
2. Mixed woodland dominated by Red Morrel (*Eucalyptus longicornis*)
3. Mixed woodland dominated by Gimlet (*Eucalyptus salubris*)
4. Mixed Eucalyptus Mallee woodland

Three of these habitats are present within the Clearing Permit Area (Table 2-7 and Figure 2-13). A maximum of 2.1 ha is proposed to be cleared within the Clearing Permit Area (inclusive of 1 ha of existing clearing/ disturbance).

**Table 2-7: Fauna Habitats within the Clearing Permit Area**

Fauna Habitats	Clearing Permit Area	
	Ha area	%
Shrubland dominated by Acacia and Melaleuca spp.	0.4	9.1
Mixed woodland dominated by Gimlet ( <i>Eucalyptus salubris</i> )	1.6	38.5
Mixed Eucalyptus Mallee woodland	1.0	23.1
Disturbed Area	1.2	29.3
<b>Total</b>	<b>4.2</b>	<b>100</b>

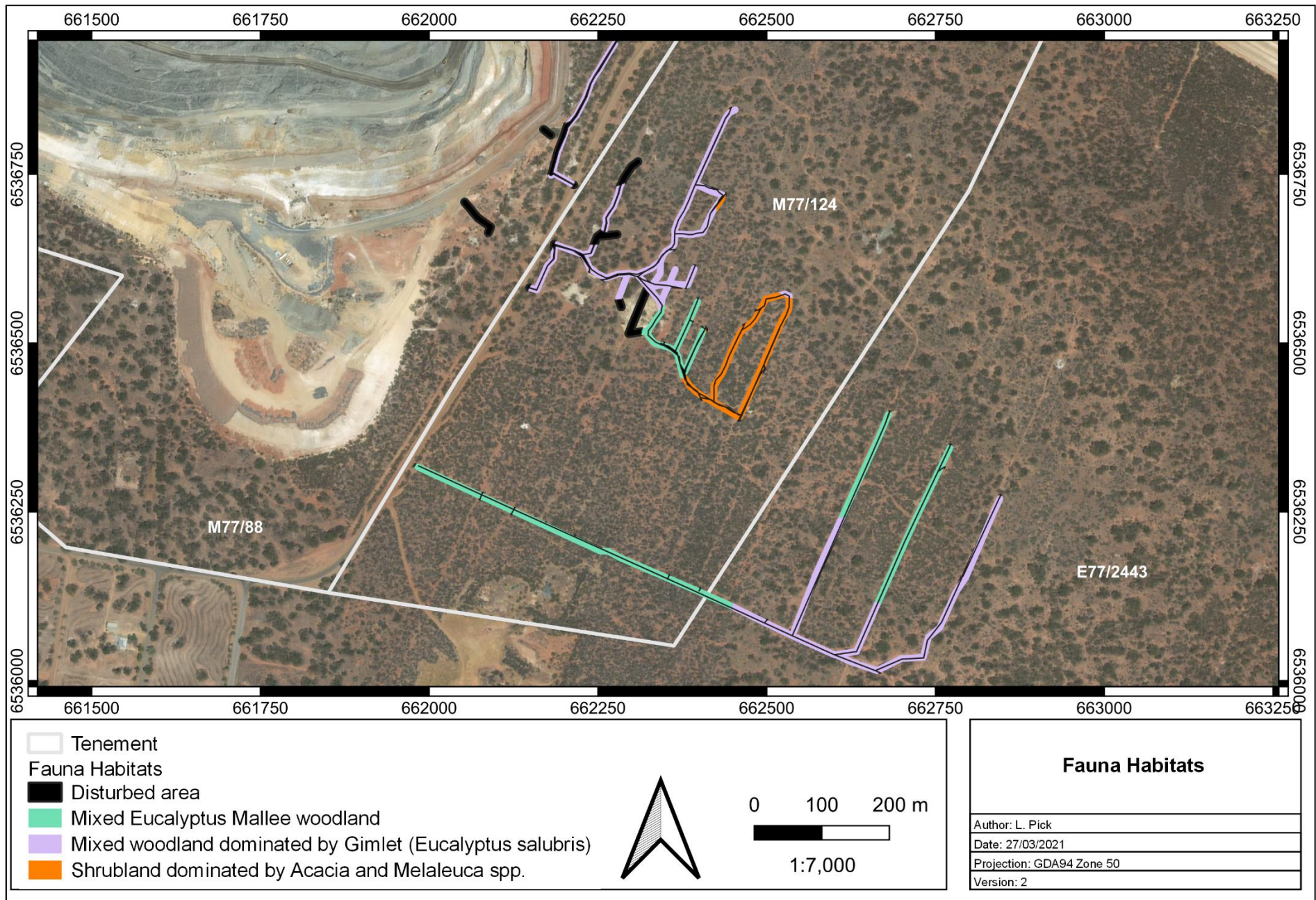


Figure 2-13: Fauna Habitats within the Clearing Permit Area

A total of 36 species (33 native species) were recorded during the 2013/2014 fauna survey of the Edna May and Greenfinch Projects (Table 2-8). The vertebrate fauna observed included 22 native birds, 8 native mammals, 3 reptiles and 3 introduced species. None of these species are of conservation significance and all were identified by the database searches as potentially occurring in the project locality.

Targeted searches for invertebrate fauna in the project area (active hand-searching for cryptic species by overturning logs and stones and searching beneath leaf litter and the bark of dead trees; and active visual and hand-searching for invertebrate species of conservation significance) have not discovered any short range endemic invertebrate fauna. Overall, six fauna species of conservation significance identified during desktop reviews of the project area are considered as potentially occurring within the project area, although no evidence of their presence has been observed during field surveys (Table 2-9).

**Table 2-8: Native fauna recorded during surveys of Edna May and Greenfinch project area (MWH, 2014)**

Mammals			
<i>Macropus fuliginosus</i> Western Grey Kangaroo	<i>Tadarida australis</i> (white-striped free-tailed bat)	<i>Chalinolobus gouldii</i> Gould's Wattled Bat	<i>Nyctophilus geoffroyi</i> Lesser Long-eared Bat
<i>Mormopterus "sp 4"</i> South-western Free-tailed Bat	<i>Tachyglossus aculeatus</i> (Short-beaked Echidna)	<i>Chalinolobus morio</i> Chocolate Wattled Bat	<i>Vespadelus regulus</i> Southern Forest Bat
Birds			
<i>Acanthiza inornata</i> Western Thornbill	<i>Malurus lamberti</i> Variegated Fairy-wren	<i>Coracina novaehollandiae</i> Black-faced Cuckooshrike	<i>Grallina cyanoleuca</i> Magpie-lark
<i>Acanthiza uropygialis</i> Chestnut-rumped Thornbill	<i>Corvus coronoides</i> Australian Raven	<i>Ocyphaps lophotes</i> Crested Pigeon	<i>Colluricincla harmonica</i> Grey Shrike-thrush
<i>Chenonetta jubata</i> Australian Wood Duck	<i>Cracticus tibicen</i> Australian Magpie	<i>Phaps chalcoptera</i> Common Bronzewing	<i>Petroica goodenovii</i> Red-capped Robin
<i>Cracticus nigrogularis</i> Pied Butcherbird	<i>Strepera versicolor</i> Grey Currawong	<i>Anthochaera carunculata</i> Red Wattlebird	<i>Barnardius zonarius</i> Australian Ringneck
<i>Taeniopygia guttata</i> Zebra Finch	<i>Cacatua sanguinea</i> Little Corella	<i>Lichenostomus virescens</i> Singing Honeyeater	
<i>Petrochelidon nigricans</i> Tree Martin	<i>Eolophus roseicapillus</i> Galah	<i>Manorina flavigula</i> Yellow-throated Miner	
Reptiles			
<i>Pseudonaja affinis</i> Dugite	<i>Crenadactylus ocellatus</i> Clawless Gecko	<i>Tiliqua rugosa</i> Shingle-back	

Note: Introduced species recorded during 2013/2014 surveys were: *Ovis aries* (domestic sheep), *Vulpes* (fox) and *Oryctolagus cuniculus* (rabbit)

**Table 2-9: Potential fauna of conservation significance**

Common name (species name)	Conservation Status			Habitat Preference	Likely presence
	EPBC Act	BC Act	DFER Priority		
Carnaby's Black Cockatoo ( <i>Calyptorhynchus latirostris</i> )	EN	EN		Eucalypt Woodlands with suitable hollows	Possibly occurs but probably only rarely. Unlikely to breed in the Clearing Permit Area
Chuditch ( <i>Dasyurus geoffroyi</i> )	VU	VU		Eucalypt Woodlands with suitable hollows	Possibly occurs but probably only rarely. Unlikely to breed in the Clearing Permit Area
Malleefowl ( <i>Leipoa ocellata</i> )	VU	VU		Dense vegetation (Mallee/Mulga woodlands)	Possibly occurs but probably only rarely. Habitat very marginal/unsuitable.
Shield-backed Trapdoor Spider ( <i>Idiosoma nigrum</i> )	VU	VU		Open York gum ( <i>Eucalyptus loxophleba</i> ), Salmon gum ( <i>E. salmonophloia</i> ) and Wheatbelt Wandoo ( <i>E. capillosa</i> ) woodland, with <i>Acacia acuminata</i> understorey in heavy clay soils	Possibly occurs but probably only rarely. Habitat very marginal/unsuitable.
Tree-stem Trapdoor Spider ( <i>Aganippe castellum</i> )			P4	Flood-prone depressions and flats that support myrtaceous shrub communities.	Possibly occurs but probably only rarely. Habitat very marginal/unsuitable.

Common name (species name)	Conservation Status			Habitat Preference	Likely presence
	EPBC Act	BC Act	DBCA Priority		
Arid bronze azure butterfly ( <i>Ogyris subterrestris petrina</i> )	CR	CR		The arid bronze azure is reported as being restricted to mallee vegetation on sandy soil, often near flood plains, in which nests of the associated ant are established at the base of eucalypts.	Unlikely to occur. Favoured habitat of the host ant ( <i>Camponotus terebrans</i> ) is absent (i.e. sandy soils with smooth barked eucalypts).

### 2.6.2 Significant Fauna

According to the EPA *Environmental Factor Guideline for Terrestrial Fauna* (EPA, 2016d) fauna of conservation significance 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
- Fauna providing an important function required to maintain the ecological integrity of a significant ecosystem.

No significant fauna are known to occur within the Clearing Permit Area.

Vegetation/fauna habitat of the Clearing Permit Area is of lower quality than the surrounding Westonia Common and the close proximity to existing mining/ location of the Shire's existing Boodarockin Road has already restricted the movement of fauna in the area.

### 3 Native Vegetation Clearing Principles

Based on the outcomes from flora and fauna surveys presented in this environmental assessment report, the native vegetation clearing principles, listed under Schedule 5 of the EP Act have been assessed (Table 3-1).

**Table 3-1: Assessment of clearing against native vegetation clearing principles**

Letter	Principle	Assessment	Outcome
<p>Native vegetation should not be cleared if it:</p>			
(a)	<p>comprises a high level of biological diversity.</p>	<p>Vegetation of the Avon Wheatbelt Bioregion is not considered to be of high biological diversity comparative to other bioregions of Western Australia, yet is rich in endemic species, particularly on granite outcrops and sandplains. Neither of these habitats occur within the Clearing Permit Area and no endemic species were identified within the Clearing Permit Area.</p> <p>The total Clearing Permit Area is 4.2 ha within which a maximum of 2.1 ha of clearing is proposed (inclusive of 1 ha of existing clearing/ disturbance).</p> <p>No Threatened Flora or Fauna taxa listed under the BC Act and EPBC Act are located within the Clearing Permit Area. No Priority Flora or Fauna taxa listed by DBCA are located within the Clearing Permit Area.</p> <p>The Clearing Permit Area is located on the north-eastern boundary of the Westonia Common, which is a biologically diverse remnant of native vegetation (Outback Ecology, 2014a; McLellan, 2008). Approximately 3.8 ha of the Clearing Permit Area (including 1.0 ha of existing disturbance), is located within the north-eastern edge of the Westonia Common which represents 0.17% of the total extent of the Westonia Common. The maximum clearing proposed within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance) which represents 0.1% of the total extent of the Westonia Common.</p> <p>The Clearing Permit Area is located within areas of existing disturbance/ adjacent to existing disturbance (i.e., within area of existing exploration, adjacent to existing road (Boodarockin Road), and Edna May mine). No direct clearing of mature Eucalypts is proposed with clearing within Eucalypt woodland vegetation limited to driving over regrowth/ groundcover herbs along existing access tracks/ drill lines and trimming of any overhanging branches to allow for safe access.</p> <p>A fauna survey was undertaken over the Edna May and Greenfinch Project area by MWH (2014) which covered an area of 166ha. The survey recorded a total of 36 species, comprising 22 bird, eight mammal, three reptile and three introduces species (MWH, 2014) none of which are significant fauna. The study area predominantly covered the Westonia Common, which is a biologically diverse remnant of native vegetation (Outback Ecology, 2014a; McLellan, 2008) however only 3.8 ha of the Clearing Permit Area is located within the Westonia Common (including 1.0 ha of existing disturbance), therefore, the application area is not likely to contain the same level of fauna diversity as recorded in the wider study area.</p>	<p>Clearing may be at variance to this principle</p>
(b)	<p>comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to WA.</p>	<p>No Threatened or Priority Fauna are known to occur within the Clearing Permit Area. The Clearing Permit Area does not contain tree hollows of a size likely to be suitable for Carnaby's black cockatoo for nesting purposes. The potential foraging habitat present appears to be limited in quality and extent with little variety in species composition. No evidence of roosting activity was observed.</p> <p>A fauna survey was undertaken over the Edna May and Greenfinch Project area by MWH (2014) which covered an area of 166 ha. The survey recorded a total of 36 species, comprising 22 bird, eight mammal, three reptile and three introduces species (MWH, 2014) none of which are significant fauna. The study area predominantly covered the Westonia Common, which is a biologically diverse remnant of native vegetation (Outback Ecology, 2014a; McLellan, 2008) however only 3.8 ha of the Clearing Permit Area is located within the Westonia Common (including</p>	<p>Clearing is not likely to be at variance to this principle</p>

Letter	Principle	Assessment	Outcome
	Native vegetation should not be cleared if it:	<p>1.0 ha of existing disturbance), therefore, the application area is not likely to contain the same level of fauna diversity as recorded in the wider study area.</p> <p>No unique fauna habitats (i.e. caves, rock outcrops overhangs or crevices) or water bodies (both perennial/ non-perennial) occur within the Clearing Permit Area.</p> <p>Three fauna habitats were identified within the Clearing Permit Area (2.9 ha of the Clearing Permit Area):</p> <ol style="list-style-type: none"> <li>1. Shrubland dominated by Acacia and Melaleuca spp.</li> <li>2. Mixed woodland dominated by Gimlet (<i>Eucalyptus salubris</i>)</li> <li>3. Mixed Eucalyptus Mallee woodland</li> </ol> <p>The remaining area (1.2 ha) comprised of disturbed area.</p> <p>Comparative to vegetation/habitat available within the greater Westonia Common, the Clearing Permit Area does not represent significant fauna habitat due to its location directly adjacent operational mining areas, the degree of disturbance within the area from historic mining/ exploration disturbances and the operation of the existing Shire road which runs through the Clearing Permit Area (Boodarockin Road). Based on these factors, fauna activity within the Clearing Permit Area is low (as evident from the previous fauna assessments) and habitat is of reduced quality. Whilst fauna potentially utilise the area, the habitat is unlikely to be critical for the survival of local fauna within the area with no fauna species being endemic or restricted to the Clearing Permit Area, the great majority of fauna observed comprising of birds which are not entirely reliant on the area as a potential habitat corridor and fauna mobilisation within the area is already reduced by the Shire's Boodarockin Road.</p> <p>No direct clearing of mature Eucalypts is proposed with clearing within Eucalypt woodland vegetation limited to driving over regrowth/ groundcover herbs along existing access tracks/ drill lines and trimming of any overhanging branches to allow for safe access.</p>	
(c)	includes, or is necessary for the continued existence of rare flora.	<p>No Threatened Flora taxa, pursuant to the BC Act and the EPBC Act are located within the Clearing Permit Area. Available records show that there are no current or historic records (from 1904-2020) of <i>Eremophila resinosa</i> within the Clearing Permit Area and there have not been any new seedlings recorded in the Clearing Permit Area.</p> <p>Habitat critical to the survival of <i>E. resinosa</i> includes the area of occupancy of extant populations, areas of similar habitat (i.e., sandy loams, clays, and loams supporting open mallee woodland with mixed <i>Acacia</i> scrub understorey (DEC, 2008). To date, habitat critical to the survival of <i>Eremophila resinosa</i> has not been mapped by DBCA, which is listed as a recovery action in the Interim Recovery Plan (DEC, 2008). Based on the description provided in the Interim Recovery Plan, Botanica Consulting have mapped the area of critical habitat including the area of occupancy for extant populations (referred to as 'critical habitat'), area of similar habitat surrounding important populations (referred to as 'important habitat-habitat between populations') and 'important habitat-translocation populations' in order to assess the potential impact on critical habitat. Based on the mapped habitat, no critical habitat (i.e., area of occupancy for extant populations) is located within the Clearing Permit Area. Approximately 2.9 ha of the Clearing Permit Area contains important habitat (suitable vegetation between populations) which represents a maximum of 0.07% of the total extent of important habitat. This is based on the total extent of native vegetation within the Clearing Permit area, including vegetation that is not considered to be representative of suitable habitat for <i>E. resinosa</i> described by DBCA (i.e., sandy loams, clays, and loams supporting open mallee woodland with mixed <i>Acacia</i> scrub understorey). The maximum clearing proposed within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance).</p>	Clearing is not likely to be at variance to this principle

Letter	Principle	Assessment	Outcome
<p>Native vegetation should not be cleared if it:</p>			
(d)	<p>comprises the whole or part of or is necessary for the maintenance of a threatened ecological community (TEC).</p>	<p>The Clearing Permit Area is located within the 'Eucalypt woodlands of the Western Australian Wheatbelt' which is listed as a TEC under the EPBC Act. 1.6 ha of the Clearing Permit Area contained Eucalypt woodland of 'good' condition (<i>E. salubris</i> woodland) with patch size/ species consistent with the TEC criteria. The extent of the TEC within the Clearing Permit Area comprises approximately 0.07% of the total extent of the TEC within the local area (i.e. within the Westonia Common).</p> <p>The maximum proposed clearing within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance) with no direct clearing of mature Eucalypts proposed with clearing within Eucalypt woodland vegetation limited to driving over regrowth/ groundcover herbs along existing access tracks/ drill lines and trimming of any overhanging branches to allow for safe access.</p> <p>Due to the limited area of TEC vegetation within the Clearing Permit Area (1.6 ha of the Clearing Permit Area comprises of vegetation representative of TEC), the large extent of TEC outside of the Clearing Permit Area in good condition (~2208 ha), no direct clearing proposed for mature Eucalypts and the location of the proposed clearing in relation to the TEC (located adjacent to and within previously cleared/disturbed land), clearing is not expected to have a significant impact on the TEC and will not significantly increase potential edge effects or fragmentation of the TEC. Weed and disease hygiene measures will be in place during exploration activities with all exploration to be managed in accordance with the <i>Edna May Project Conservation Management Plan for Exploration (Westonia Common) Version 2</i>.</p>	<p>Clearing is at variance to this principle</p>
(e)	<p>is significant as a remnant of native vegetation in an area that has been extensively cleared</p>	<p>According to DPIRD (2018), the survey area occurs in pre-European Beard vegetation association Yilgarn 536, which retains approximately 35.5% of the original vegetation extent in the Merredin subregion and 41.2% within Western Australia. Development of the Golden Point exploration programme will not reduce the extent of this vegetation association below the 30% threshold (maximum reduction of 0.05% in the Merredin subregion).</p> <p>Proposed clearing is located adjacent to and within previously cleared/disturbed land and has been planned to avoid fragmentation/isolated patches of remnant vegetation and will not significantly increase potential edge effects.</p> <p>Given the presence of good condition vegetation covering a large area (at least 2000 ha) extending outside of the Clearing Permit Area, clearing within the Clearing Permit Area is not considered to have a significant impact on remnant vegetation.</p> <p>No direct clearing of mature Eucalypts is proposed with clearing within Eucalypt woodland vegetation limited to driving over regrowth/ groundcover herbs along existing access tracks/ drill lines and trimming of any overhanging branches to allow for safe access.</p>	<p>Clearing is at variance to this principle</p>
(f)	<p>is growing, in, or in association with, an environment associated with a watercourse or wetland</p>	<p>According to the Geoscience Australia GIS database, there are no drainage lines or inland waters within the survey area. No riparian vegetation was identified within the survey area.</p>	<p>Clearing is not at variance to this principle</p>
(g)	<p>Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.</p>	<p>According to DPIRD (2018), the survey area occurs in pre-European Beard vegetation association Yilgarn 536, which retains approximately 35.5% of the original vegetation extent in the Merredin subregion and 41.2% within Western Australia. Development of the Golden Point exploration programme will not reduce the extent of this vegetation association below the 30% threshold (maximum reduction of 0.05% in the Merredin subregion). The Avon Wheatbelt region has been subject to extensive clearing resulting in land degradation. However, the Clearing Permit Area is located on the north-eastern boundary of the Westonia Common</p>	<p>Clearing is not likely to be at variance to this principle</p>

Letter	Principle	Assessment	Outcome
<b>Native vegetation should not be cleared if it:</b>			
		<p>(approximately 3.8 ha of the Clearing Permit Area) which covers an area of 2,208 ha of mostly intact vegetation of good condition. The maximum clearing proposed within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance) which represents 0.1% of the total extent of the Westonia Common.</p> <p>Given the presence of good condition vegetation covering a large area (at least 2000 ha) extending outside of the Clearing Permit Area, clearing within is not likely to lead to appreciable land degradation issues such as salinity, water logging or acidic soils.</p>	
(h)	<p>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.</p>	<p>The Clearing Permit Area is not located within a Conservation Area as defined in Schedule 5 to the EP Act to mean:</p> <p><i>'a conservation park, national park, nature reserve, marine nature reserve, marine park or marine management area within the meaning of the Conservation and Land Management Act 1984 or any other land or waters reserved, protected or managed for the purpose of, or purposes including, nature conservation.'</i></p> <p>Approximately 3.8 ha of the Clearing Permit Area (including 1.0 ha of existing disturbance) is located along the north-eastern boundary of the Westonia Common, which consists of Crown Reserves and Unallocated Crown Land vested in the Shire of Westonia. The maximum clearing proposed within the Clearing Permit Area is 2.1 ha (inclusive of 1 ha of existing clearing/ disturbance) which represents 0.1% of the total extent of the Westonia Common. The vested land use purposes of the reserves include: 'commonage' (pasturing of livestock), an old racetrack, timber harvesting, gravel/sand extraction, and an airstrip (EcoLogical Australia, 2016).</p> <p>The nearest Conservation Reserve is the Sandford Rocks Nature Reserve which is located approximately 6 kilometres north-east of the application area and is managed by DBCA. The proposed clearing will not impact on any ecological linkages to the Nature Reserve.</p>	<p>Clearing is not likely to be at variance to this principle</p>
(i)	<p>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.</p>	<p>According to the Geoscience Australia GIS database, there are no drainage lines or inland waters within the Clearing Permit Area. No riparian vegetation was identified within the Clearing Permit Area. The Clearing Permit Area is located in an arid to semi-arid environment with most rainfall lost by evaporation or surface runoff. Only a small portion infiltrates the soil and recharges the groundwater.</p>	<p>Clearing is not likely to be at variance to this principle</p>
(j)	<p>Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding</p>	<p>Rainfall is unreliable and highly variable with an average rainfall of 300-330mm and an evaporation rate of 2000 mm. The region is not prone to flooding and does not contain riparian vegetation.</p>	<p>Clearing is not likely to be at variance to this principle</p>



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## **Appendix A: Conservation Management Plan**

Provided as separate document

## **Appendix B: Flora and Fauna Assessments**

Provided as separate document