



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9638/1
File Number: DWERVT9727
Duration of Permit: From 22 June 2022 to 22 June 2024

PERMIT HOLDER

City of Kalgoorlie-Boulder

LAND ON WHICH CLEARING IS TO BE DONE

Lot 502 on Deposited Plan 417574, Yilkari
Lot 503 on Deposited Plan 417574, Yilkari
Lot 504 on Deposited Plan 417574, Yilkari

AUTHORISED ACTIVITY

The permit holder must not clear more than 5.76 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

- (a) avoid the clearing of *native vegetation*;
- (b) minimise the amount of *native vegetation* to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

2. Weed management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds*.

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared;
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

3. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner in a single direction towards adjacent *native vegetation* to allow malleefowl and other fauna to move into adjacent *native vegetation* ahead of the clearing activity.

4. Erosion Management

The permit holder must commence the construction of the transport depot, access roads and the laydown area no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind and water erosion.

5. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none"> (a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 1; (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with condition 2; (g) the direction of clearing in accordance

No.	Relevant matter	Specifications
		with condition 3; and (h) erosion management activities undertaken in accordance with condition 4.

6. Reporting

The permit holder must provide to the *CEO* the records required under condition 5 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
fill	means material used to increase the ground level, or to fill a depression.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

A handwritten signature in black ink, appearing to read 'M Gannaway', written over a horizontal line.

Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

29 May 2022

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

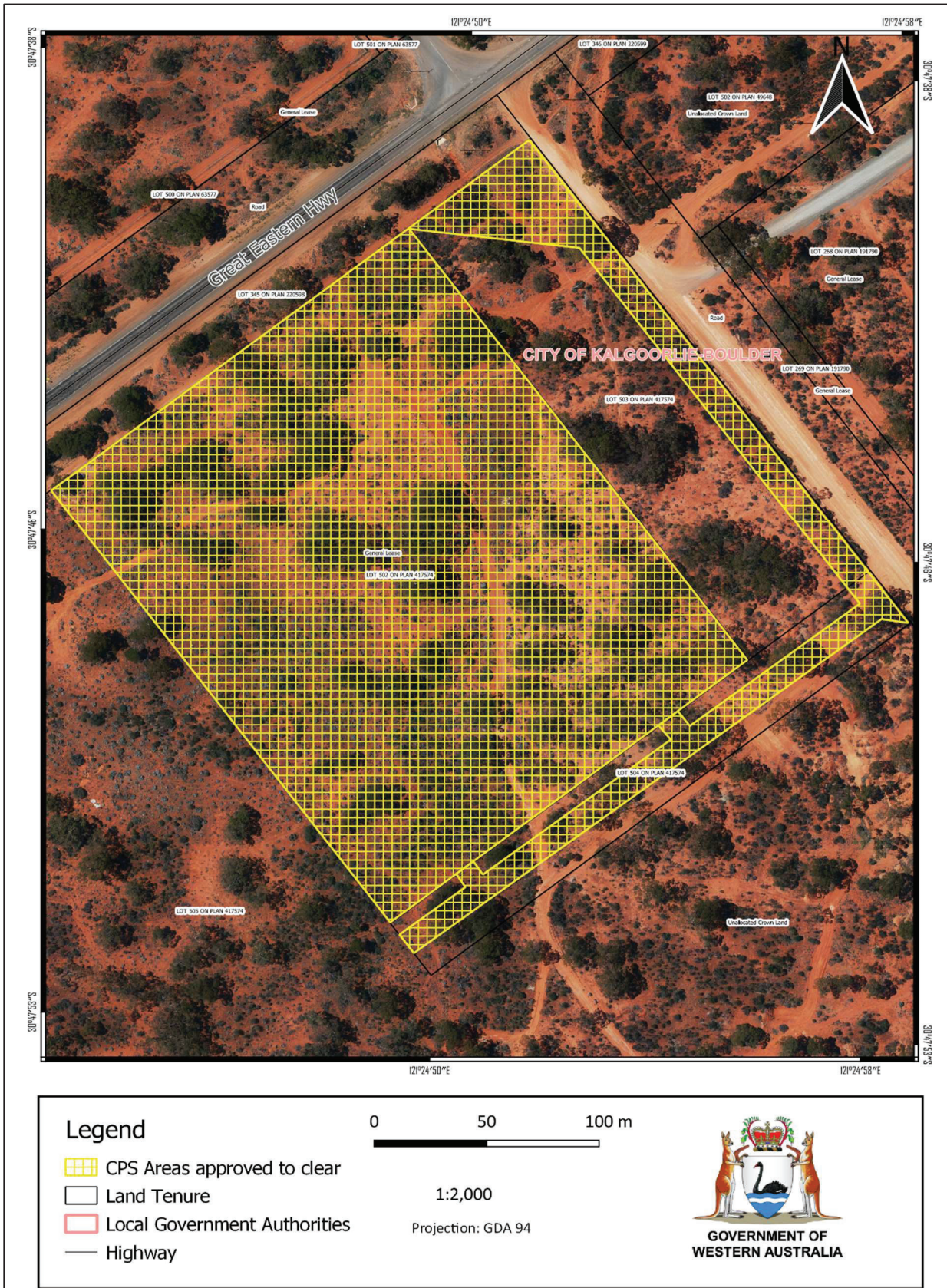


Figure 1: Map of the boundary of the area within which clearing may occur.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9638/1
Permit type:	Area permit
Applicant name:	City of Kalgoorlie-Boulder
Application received:	01 March 2022
Application area:	5.76 hectares of native vegetation
Purpose of clearing:	Construction of a transport depot, access road and laydown area
Method of clearing:	Mechanical Clearing
Property:	Lot 502 on Deposited Plan 417574 Lot 503 on Deposited Plan 417574 Lot 504 on Deposited Plan 417574
Location (LGA area/s):	City of Kalgoorlie-Boulder
Localities (suburb/s):	Yilkari

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5). The vegetation applied to be cleared is predominately eucalyptus woodlands on broad loamy plains and low rises. The vegetation within the application area is typical of the region and is not considered to be diverse (Terrestrial Ecosystems, 2019).

The proposed clearing is for the purpose of constructing a transport depot, access road and a laydown area (City of Kalgoorlie-Boulder, 2022a).

1.3. Decision on application

Decision:	Granted
Decision date:	29 May 2022
Decision area:	5.76 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1), the findings of a flora and vegetation survey (NVS, 2019), fauna survey (Terrestrial Ecosystems, 2019) (see Appendix E), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C),

relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the purpose of the clearing is to improve services to the community.

The assessment identified that the proposed clearing will result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- the potential risk of injury to malleefowl and other fauna; and
- potential land degradation in the form of wind and water erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation, have long-term adverse impacts on environmental values and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- undertake slow, progressive one directional clearing to allow fauna to move into adjacent habitat ahead of the clearing activity if present; and
- to commence construction activities within three months of undertaking clearing to minimise the potential for wind and water erosion.

1.5. Site map

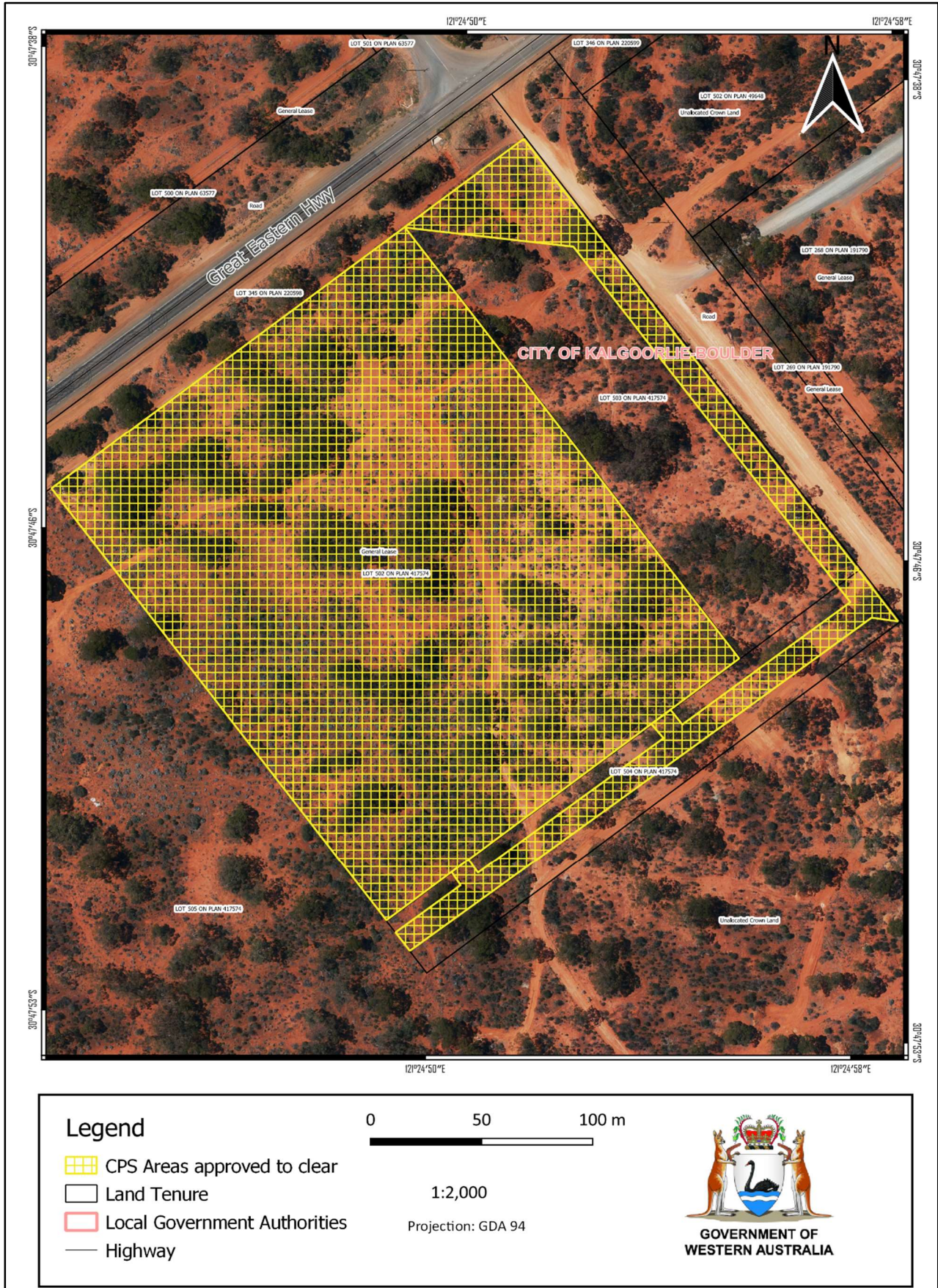


Figure 1 Map of the application area

The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Soil and Land Conservation Act 1945* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The City of Kalgoorlie-Boulder (the City) stated that the City has considered to minimise clearing wherever possible with only removing vegetation that is required for the proposed work. To mitigate the clearing of native vegetation, the City is proposing to undertake landscaping of the site with planting native trees native to the Kalkurla Park in Kalgoorlie as per the City's policy (City of Kalgoorlie-Boulder, 2022b).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix C) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise, hygiene, directional clearing, and erosion management conditions.

3.2.1. Biological values (biodiversity and fauna) - Clearing Principles (a and b)

Assessment

The proposed clearing area is located within the Eastern Goldfields subregion of the interim Biogeographic Regionalisation for Australia (IBRA) Coolgardie Bioregion. The Eastern Goldfields subregion is characterised by undulating plains interrupted by low hills and ridges. The application area is located over the Coolgardie vegetation association nine, where the vegetation is described as a mixed Eucalyptus woodland comprised of gimlet (*Eucalyptus salubris*), *Eucalyptus oleosa* and redwood.

The application area is part of an expansive tract of native vegetation surrounded by existing mining and infrastructure activities. A flora and vegetation survey was conducted by Native Vegetation Solutions (NVS) on 12 September 2019 to confirm the vegetation type, vegetation condition and determine the presence of any priority flora species (NVS, 2019). The survey identified nine different vegetation types over the survey area. The dominant vegetation type identified over the application area was *Eucalyptus salmonophloia* and *Eucalyptus transcontinentalis* open woodland with the dominant species being *Eucalyptus salmonophloia*, *Eucalyptus transcontinentalis*, *Maireana sedifolia*, *Maireana triptera*, *Eremophila scoparia*, *Acacia hemiteles*, *Eremophila glabra* subsp. *glabra*, *Eremophila oldfieldii* subsp. *angustifolia* and *Scaevola spinescens* (NVS, 2019). The vegetation condition within the application area ranges from Good to Very good (Trudgen, 1991) condition (NVS, 2019). Seventy-eight hectares (ha) of the total

survey area (213.6 ha) was identified as the vegetation type described above. This vegetation type extended beyond the application area and is widespread throughout the region (NVS, 2019). No conservation significant ecological communities are mapped over the application area, and none are likely to occur within the application area. No Threatened or Priority ecological communities were identified during the survey (NVS, 2019).

Flora

A desktop assessment identified 14 priority flora and no threatened flora within the 20-kilometre radius of the application area. Of these 14 conservation significant flora species, four were identified as having a potential to occur within the application area due to the presence of suitable habitat. These species are: *Elachanthus pusillus* (P2), *Eremophila praecox* (P2), *Notisia intonsa* (P3) and *Xanthoparmelia dayiana* (P3). The habitat is widespread across the region. None of the above priority flora taxa have been previously mapped over the application area, and none were identified during the flora and vegetation survey (NVS, 2019). The proposed clearing is unlikely to impact the conservation status of any of the species identified through the desktop assessment.

Fauna

The fauna habitat known to occur over the application area is open eucalyptus woodland with a mixed understory of scattered shrubs and chenopods. The fauna habitat described within the application area is considered widespread throughout the region and is not restricted to the application area (Terrestrial Ecosystems, 2019). The desktop assessment did not identify any conservation significant fauna species over the application area. A level one vertebrate fauna risk assessment was undertaken by Terrestrial Ecosystems and the assessment did not identify any conservation significant individuals or evidence of conservation significant fauna species utilising the application area (Terrestrial Ecosystems, 2019).

The desktop assessment identified eight bird species in which five were avian migratory birds associated with aquatic habitats. Noting the absence of wetlands or watercourses within the application area, the proposed clearing is not likely to have a significant impact on the identified migratory birds. The priority four Grey-tailed tattler (*Tringa brevipes*) is also migratory in nature and is found in intertidal rocky, coral or stony reefs (DAWE, n.d) hence, unlikely to occur over the application area. The malleefowl (*Leipoa ocellata*, VU at a state and federal level) has the potential to occur over the application area however, the application area will not provide core habitat for a Malleefowl population.

There were records of Carnaby's Cockatoo (*Calyptorhynchus latirostris*, EN at a state and federal level) from the local area. Previously, there had been no records of Carnaby's cockatoo in the Kalgoorlie area until 2016 and 2017 when a few individuals were recorded within the Kalgoorlie townsite (DBCA, 2020b). The current modelled distribution for the species is 250 kilometres west of Kalgoorlie (DAWE, 2020). Due to the rarity of the species in the area, the proposed clearing is unlikely to cause significant habitat loss or impact the conservation status of the species.

The closest record of the malleefowl was identified 7.05 kilometres from the application area. Malleefowl is known to occur within shrublands, and low woodlands dominated by mallee and can occur in woodlands dominated by eucalyptus and acacia. Malleefowl require sandy substrate with abundant leaf litter to construct mounds that act as incubator-nests (DAWE, n.d). According to the vegetation description and the vegetation over the application area in Good to Very Good (Trudgen, 1991) condition, the possibility of malleefowl utilising the application area is likely. During the fauna assessment, search for malleefowl and their mounds were undertaken and no records of malleefowl footprints or their mounds were identified (Terrestrial Ecosystems, 2019). Given the openness and the close proximity to the Kalgoorlie urban area, it is highly unlikely that core malleefowl habitat would occur over the application area. However, there is still a likelihood of malleefowl individuals utilising the application area to traverse through the landscape. It is recommended that the clearing is conducted slowly and in one direction towards adjacent native vegetation to avoid injury to malleefowl.

There were records of *Myrmecobius fasciatus* (numbats) and *Macrotis lagotis* (bilby) from the local area. Numbats and the bilbies are no longer present in this area, having been predated on by foxes, cats, and wild dogs many years ago (Terrestrial Ecosystems, 2019). The records of the butterfly species (*Jalmenus aridus* and *Ogyris subterrestris petrina*) recorded within the application area were historical, having been identified in 1997 and 1991, respectively. The fauna survey did not identify any of the above species over the application area.

Weeds have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the introduction and spread of weeds may be minimised by the implementation of a weed management condition.

Conclusion

Based on the above assessment, the proposed clearing may result in injury to malleefowl individuals if present during the clearing activities. The Delegated officer has determined that the proposed clearing is not likely to result in a significant impact on conservation significant flora, fauna or ecological communities and is therefore, not an area of high biodiversity. Adjacent native vegetation is susceptible to weed invasion which the clearing process may exacerbate, thereby reducing the condition of adjacent remnant vegetation.

For the reasons set out above, it is considered that the impacts from the proposed clearing can be managed by taking steps to minimise the risk of the introduction and spread of weeds and slow directional clearing to allow malleefowl to move into the adjacent vegetation.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- slow, directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity will minimise any impact to individuals.
- weed management measures will be required as a condition on the clearing permit.

3.2.2. Environmental value (land and water resources) - Clearing Principles (g)

Assessment

The application area is situated within the 265Mx43 land system. The 265Mx43 land system is described as gently undulating valley plains and pediments; some outcrop of basic rock. Chief soils are alkaline red earths with limestone or limestone nodules at shallow depth (less than 0.61 meters) on gently sloping slightly concave plains with low gentle rises (DPIRD, 2019). The mapped soil type may lead to an increase in surface water flow during a high rainfall event and may lead to an increase in wind erosion if the land is left for an extended period of time prior to the commencement of construction.

The application area is not mapped within an area prone to acid sulfate soils. The potential for acidification is low. The cleared area will be replaced with a transport depot, access road and a laydown area (City of Kalgoorlie-Boulder, 2022a). Construction of the above-mentioned structures will involve appropriate designs which would include erosion management practices. To reduce the increased wind and water erosion, the applicant will be required to undertake work immediately after the completion of clearing activities to avoid any significant impacts from wind and water erosion. During the clearing and construction of the renewable energy facility, methodologies such as dust control and drainage control will ameliorate any potential land degradation. Based on the proposed clearing and the standard methodologies proposed, clearing is unlikely to cause appreciable land degradation during operations.

The groundwater salinity of the application area is mapped as 14,000-35,000 milligrams per litre Total Dissolved Solids (TDS), which is considered saline. Although the removal of deep-rooted perennial vegetation has the potential to increase the risk of salinity, the scale of the proposed clearing is small and is not likely to significantly alter salinity levels in the local area.

Conclusion

Based on the above assessment, it is considered that through the appropriate minimisation measures proposed by the City, the risk associated with wind and water erosion can be mitigated. Clearing is unlikely to cause appreciable land degradation.

Conditions

To address the above impacts, commencement of construction within three months of clearing to mitigate the risk of wind and water erosion will be required as a condition on the clearing permit.

3.3. Relevant planning instruments and other matters

The application area is located over the Department of Planning, Lands and Heritage (DPLH) reserve 23558. City of Kalgoorlie-Boulder has received permission from the DPLH to apply for a native vegetation clearing permit and to commence the construction of roads within the land (City of Kalgoorlie-Boulder, 2022b).

In August 2019, an Aboriginal Heritage Assessment was conducted over a larger area, which includes the proposed application area. The purpose of the assessment was to determine the presence of any issues that require detailed investigation/action pursuant to the *Aboriginal Heritage Act 1972*. The Aboriginal Heritage Assessment concluded that the potential for discovering scatters of Aboriginal cultural material within the site is extremely low (City of Kalgoorlie-Boulder, 2022b).

According to the available databases, no registered Aboriginal sites or other heritage places of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Information	Description
Flora and vegetation survey	Native Vegetation Solutions was commissioned by the City of Kalgoorlie-Boulder to undertake a Reconnaissance Flora and Vegetation survey of the project area. The flora and vegetation survey was completed on 12 September 2019 (NVS, 2019).
Fauna survey	Terrestrial Ecosystems was commissioned by Native Vegetation Solutions on behalf of the City of Kalgoorlie-Boulder to undertake a Level one vertebrate fauna assessment of the project area. The project area comprised of approximately 213.4 hectares (Terrestrial Ecosystems, 2019).
Aboriginal Heritage Assessment	An Aboriginal Heritage Assessment was conducted in August 2019 (City of Kalgoorlie-Boulder, 2022b).
Environmental Impact Assessment	On behalf of City of Kalgoorlie-Boulder, Tetris Environmental has undertaken the following scope of work (City of Kalgoorlie-Boulder, 2022b). <ul style="list-style-type: none"> • A desktop assessment of the project area • Baseline field assessment to confirm the presence/absence of potential constraints defined in the desktop assessment. • Peer review consultant baseline assessment reports. • Provide recommendations and general environmental guidance to City of Kalgoorlie-Boulder regarding the project.
Preliminary Site Investigation	Talis Consultants Pty Ltd was commissioned by Tetris Environmental Pty Ltd on behalf of the City of Kalgoorlie-Boulder to undertake a Preliminary Site Investigation (City of Kalgoorlie-Boulder, 2022b).

Appendix B. Site characteristics

B.1. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

Characteristic	Details
Local context	<p>The Site is situated approximately 7.5 kilometres to the south-west of the Kalgoorlie town centre, Yilkari, Western Australia (WA). The Site has the Great Eastern Highway adjacent to the north-west boundary and Kalgoorlie-Esperance railway to the south-west.</p> <p>The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is surrounded by native vegetation.</p> <p>Aerial imagery and spatial data indicate the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 97 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The proposed clearing area does not form part of a mapped ecological linkage within the local area. The vegetation within the application is contiguous with adjacent remnant vegetation.</p>
Conservation areas	<p>The area proposed to be cleared is not mapped within an Environmental Sensitive Area (ESA).</p> <p>No conservation covenants, regional parks and Department of Biodiversity and Attraction (DBCA) areas of interest or legislated land are mapped over the application area. The closest conservation area is Kurrawang Nature Reserve, located approximately 4.8 kilometres to the southwest of the application area.</p>
Vegetation description	<p>Photographs supplied by the applicant along with the flora and vegetation survey (NVS, 2019) indicate the vegetation within the proposed clearing area consists of mixed <i>Eucalyptus</i> open woodland (NVS, 2019).</p> <p>Representative photos and the full survey descriptions and maps are available in Appendix E.</p> <p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> • Beard vegetation association nine (9), which is described as goldfields; gimlet (<i>Eucalyptus salubris</i>), <i>Eucalyptus oleosa</i> and redwood (Shepherd et al, 2001). <p>The mapped vegetation type retains approximately 97.78 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Photographs supplied by the applicant and the vegetation survey (NVS, 2019) indicate the vegetation within the proposed clearing area ranges from Good to Very Good (Trudgen, 1991) condition.</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix D.</p> <p>Representative photos and the full survey descriptions and mapping are available in Appendix E.</p>
Climate and landform	<p>The location of the application area is known as arid, and the annual average rainfall received at Kalgoorlie-Boulder is 267.7 millimetres. Most of the rain usually falls between January and July months (NVS, 2019).</p>

Characteristic	Details
	<p>The application area is within the Coolgardie IBRA subregion. This subregion is a gently undulating plain on the Yilgarn Craton with calcareous soil being dominant.</p> <p>The application area falls within the 265Mx43 landform described as gently undulating valley plains and pediments; some outcrop of basic rock.</p>
Soil description	The soil over the application area is described as red loam over clay with a sand surface (Terrestrial Ecosystems, 2019) (DPIRD, 2019).
Land degradation risk	The 265Mx43 landform soils may be susceptible to wind erosion, particularly in areas where the vegetation cover will be substantially reduced and/or soil surface is disturbed (DPIRD, 2019).
Waterbodies	<p>The application area is located within the Lake Lefroy hydrographic catchment.</p> <p>The desktop assessment and aerial imagery indicate that there are no watercourses or wetlands that intersect the application area. No watercourses or wetland were identified during the flora survey (NVS, 2019)</p>
Hydrogeography	<p>The application area falls within the Goldfield Groundwater Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (RiWI Act) (DWER-034). Applicant has no intention to abstract groundwater and therefore, will not require a groundwater licence.</p> <p>The application area does not fall within a surface water area proclaimed under the RiWI Act and does not fall within an area subject to the <i>Country Areas Water Supply Act 1917</i>, nor does it occur within a Public Drinking Water Source Area (DWER-033).</p> <p>Groundwater salinity level (Total Dissolved Solids) is mapped as 14,000-35,000 milligrams per litre (saline) (DWER-026).</p>
Flora	The desktop assessment identified 14 flora records in the local area with the nearest record being <i>Eremophila praecox</i> , located 1.25 kilometres from the application area. All 14 records were priority flora species with no threatened flora identified within the local area.
Ecological communities	No state or commonwealth listed TECs or DBCA listed PECs were mapped within the application area or in the close proximity to the application area.
Fauna	<p>The desktop assessment identified 12 fauna records in the local area, with the nearest record being <i>Ogyris subterrestris petrina</i> (arid bronze azure butterfly) identified 4.93 kilometres from the application area. The 12 fauna records include of eight birds, two mammals and two invertebrate species.</p> <p>One fauna habitat was identified over the application area described as an open eucalypt woodland with a mixed understory of scattered shrubs and chenopods (Terrestrial Ecosystems, 2019).</p>

B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Coolgardie	17,418,864	15,048,329	86.39	3,787,963	21.75

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
Vegetation complex					
Coolgardie 9*	240,441	235,100	97.78	18,984.28	7.90
Local area					
50km radius	127,750	122,118	96.59	-	-

*Government of Western Australia (2019)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Did survey identify? [Y, N]
<i>Alyxia tetanifolia</i>	3	N	3.59	5	N
<i>Cyathostemon verrucosus</i>	3	N	10.62	1	N
<i>Elachanthus pusillus</i>	2	Y	8.43	1	N
<i>Eremophila praecox</i>	2	Y	1.25	29	N
<i>Eucalyptus jutsonii</i> subsp. <i>jutsonii</i>	4	N	10.95	1	N
<i>Eucalyptus x brachyphylla</i>	4	N	7.03	1	N
<i>Frankenia glomerata</i>	4	N	8.43	1	N
<i>Goodenia salina</i>	2	N	10.05	1	N
<i>Isolepis australiensis</i>	3	N	10.05	1	N
<i>Lepidium fasciculatum</i>	3	N	7.98	1	N
<i>Melaleuca coccinea</i>	3	N	6.60	1	N
<i>Notisia intonsa</i>	3	Y	10.88	3	N
<i>Ptilotus procumbens</i>	1	N	6.60	1	N
<i>Xanthoparmelia dayiana</i>	3	Y	11.34	2	N

B.4. Fauna analysis table

Scientific name	Common name	Conservation status	Number of known records (total)	Year of the last record	Distance to known records (total)	Did survey identify? [Y, N,]
BIRD						
<i>Calidris acuminata</i>	Sharp-tailed sandpiper	MI	4	2001	5.08	N
<i>Calidris alba</i>	Sanderling	MI	1	2016	12.82	N
<i>Calyptorhynchus latirostris</i>	Carnaby's cockatoo	EN	4	2018	5.18	N
<i>Leipoa ocellata</i>	malleefowl	VU	8	2019	7.05	N

Scientific name	Common name	Conservation status	Number of known records (total)	Year of the last record	Distance to known records (total)	Did survey identify? [Y, N,]
<i>Plegadis falcinellus</i>	Glossy ibis	MI	1	1981	5.08	N
<i>Tringa brevipes</i>	Grey-tailed tattler	P4	1	2017	6.19	N
<i>Tringa glareola</i>	Wood sandpiper	MI	3	2005	5.08	N
<i>Tringa nebularia</i>	Common greenshank, greenshank	MI	1	2001	14.89	N
INVERTEBRATES						
<i>Jalmenus aridus</i>	inland hairstreak, desert blue butterfly	P1	5	1997	4.92	N
<i>Ogyris subterrestris petrina</i>	arid bronze azure butterfly	CR	17	1991	4.93	N
MAMMAL						
<i>Macrotis lagotis</i>	Bilby, dalgyte, ninu	VU	4	-	7.03	N
<i>Myrmecobius fasciatus</i>	Numbat, walpurti	EN	2	-	7.03	N

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain locally or regionally significant flora, fauna, and habitats.</p> <p>The malleefowl may be a transient visitor over the application area given the suitable habitat over the application area.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain significant foraging, roosting, and breeding habitat for conservation significant fauna. However, Malleefowl identified within the local area may be a transient visitor to the application area for foraging and resting.</p> <p>The fauna assessment did not identify evidence of presence of conservation significant fauna species (Terrestrial Ecosystems, 2019).</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for Threatened flora. No known records of threatened flora occur within the local area.</p> <p>The flora and vegetation survey did not identify threatened flora within the application area (NVS, 2019).</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain species that indicate a TEC. No TEC’s were mapped over the application area. The flora and vegetation survey did not identify a TEC over the application area (NVS, 2019).</p>	Not at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	Not at variance	No
<p><u>Principle (h):</u> <i>“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.”</i></p>	Not at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p>		
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p> <p>The proposed clearing will not include clearing of riparian vegetation.</p>	Not at variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils may be susceptible to wind and water erosion. Noting the extent, location of the application area and the erosion management measures proposed by the applicant, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>Given no water courses, wetlands or Public Drinking Water Sources Areas are recorded in the vicinity of the application area, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.</p>	Not at variance	No

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E. Biological survey information excerpts and photographs of the vegetation (NVS, 2019) (Terrestrial Ecosystems, 2019)

Flora and Vegetation Survey

3.2.2.8 *Eucalyptus salmonophloia* and *Eucalyptus transcontinentalis* open woodland

This vegetation group (Figure 12) consisted of 14 Families, 24 Genera and 42 Species. The vegetation group was approximately 78.29 ha which makes up 36.65% of the survey area.

Dominant species were *Eucalyptus salmonophloia*, *Eucalyptus transcontinentalis*, *Maireana sedifolia*, *Maireana triptera*, *Eremophila scoparia*, *Acacia hemiteles*, *Eremophila glabra* subsp. *glabra*, *Eremophila oldfieldii* subsp. *angustifolia* and *Scaevola spinescens*.



Figure 12: *Eucalyptus salmonophloia* and *Eucalyptus transcontinentalis* open woodland within the survey area

Figure 1: Mapped vegetation type over the application area.

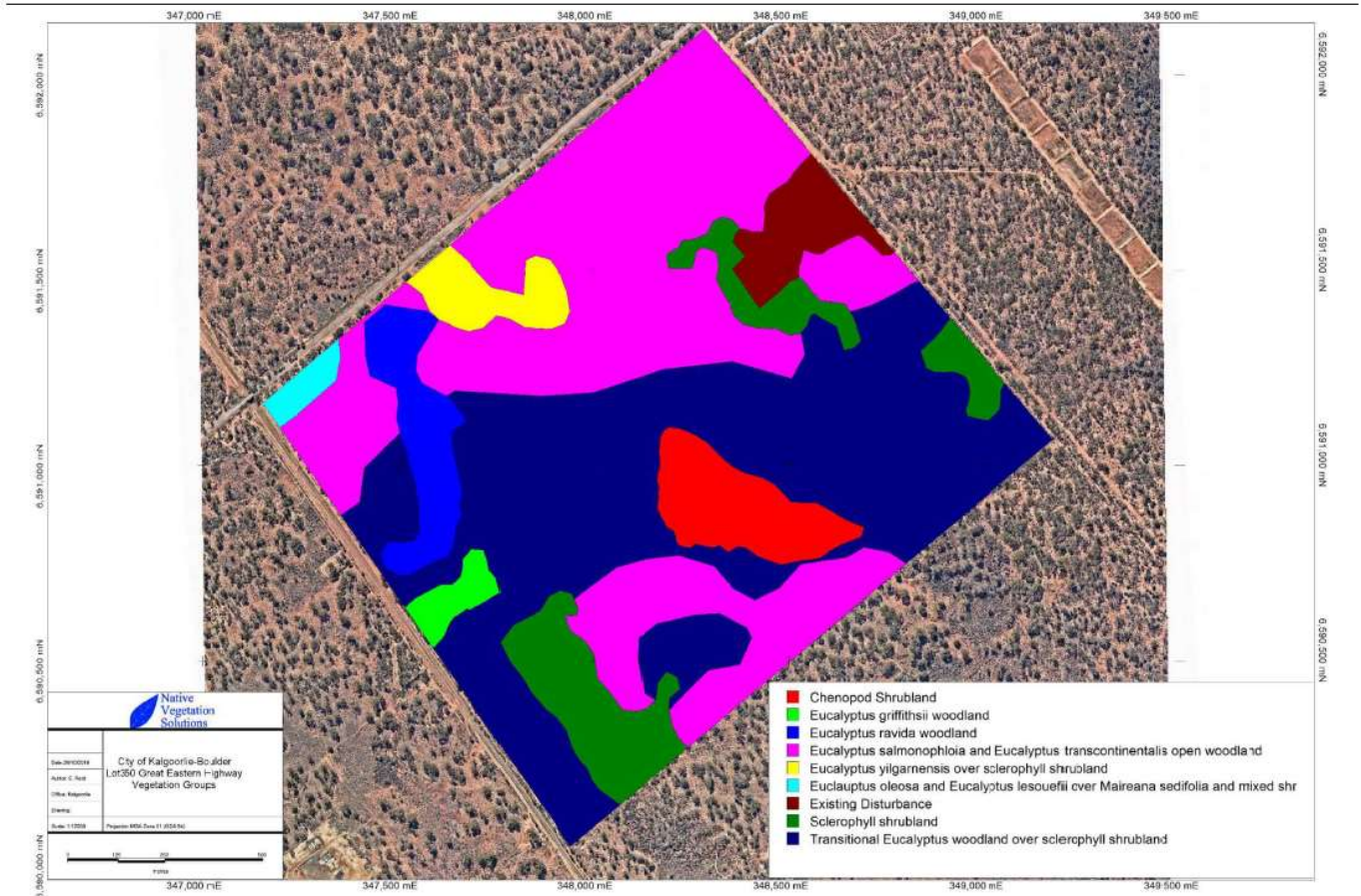


Figure 2: Mapped vegetation type over the survey area (NVS, 2019)

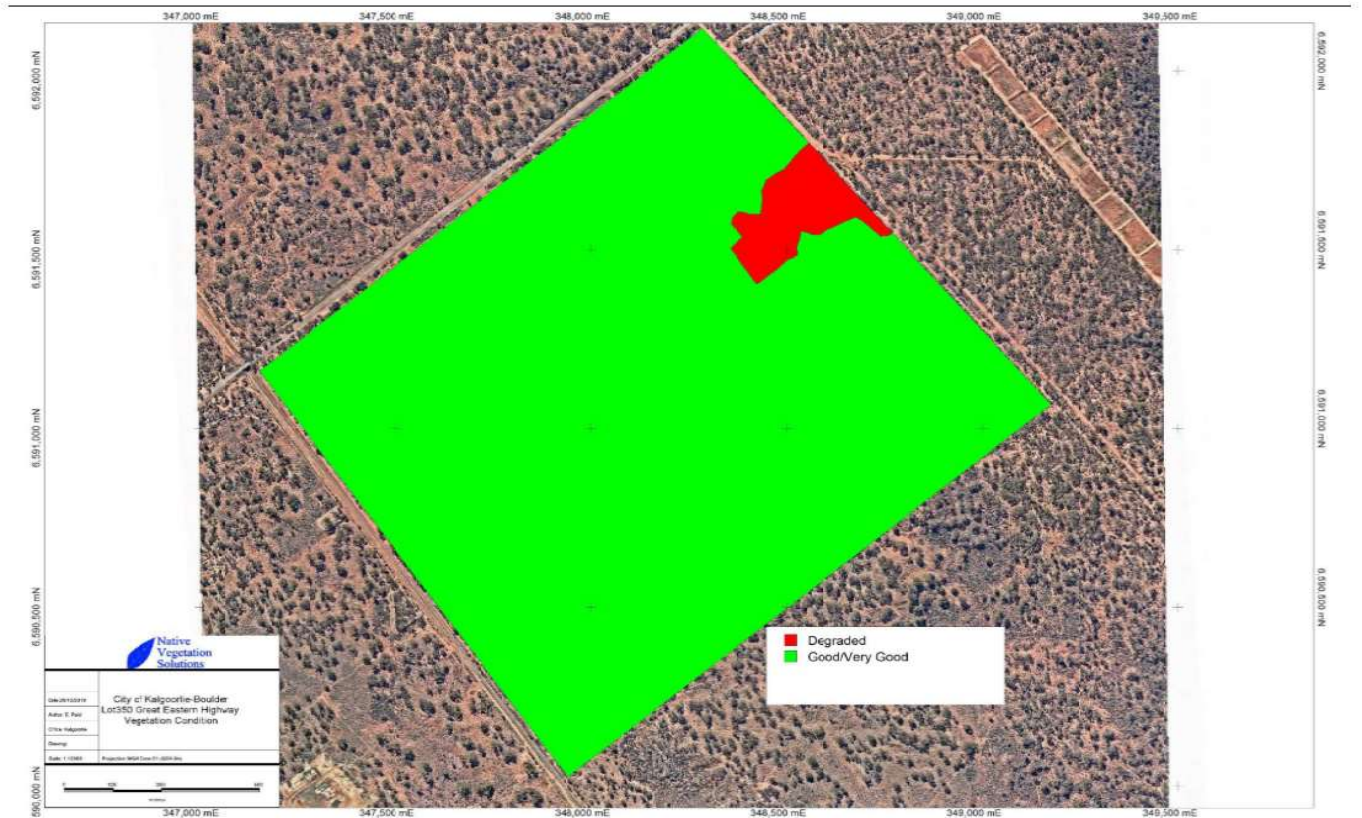


Figure 3: Mapped vegetation condition (Trudgen, 1991) over the survey area (NVS, 2019)

Fauna Assessment

4.1 Fauna habitat

There is one broad fauna habitat type in the project area. This habitat type is best described as an open eucalypt woodland with a mixed understory of scattered shrubs and chenopods. There were variations in the densities of trees, shrubs and ground cover, but these differences were not sufficient to support a significantly different vertebrate fauna assemblage.

Much of the project area was in good condition, however, there is evidence of well used tracks through the area, ground disturbance and rubbish has been dumped in some areas. Plates 1-8 are images of the area showing a variety of habitats, the internal tracks and some of the rubbish that has been deposited in the area.



Plate 1. Project area habitat



Plate 2. Project area habitat



Plate 3. Project area habitat



Plate 4. Project area habitat



Plate 5. Project area habitat



Plate 6. Project area habitat



Plate 7. Rubbish and disturbance in the project area



Plate 8. Evidence of historical exploration activity and rehabilitation in the project area

Figure 4: Photographs of the fauna habitat within the survey area (Terrestrial Ecosystems, 2019)

Appendix F. Sources of information

F.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics

- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

F.2. References

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