



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9121/1
Permit Holder:	Department of Finance
Duration of Permit:	14 February 2021 to 14 February 2026

The permit holder is authorised to clear native vegetation subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear native vegetation for the purpose of constructing a school oval.

2. Land on which clearing is to be done

Lot 569 on Plan 400255, Margaret River

3. Clearing authorised

The permit holder must not clear more than 59 native trees within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. 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.

5. Weed and dieback 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* and *dieback*:

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

6. Wind erosion management

The permit holder must commence construction activities no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

7. Fauna management – western ringtail possums and south-western brush-tailed phascogales

- (a) Prior to commencing clearing, the Permit Holder must prepare a Western Ringtail Possum Management Plan;
 - (i) the Western Ringtail Possum Management Plan must include scheduled monitoring for displaced and relocated individuals and actions for intervention with individual animals;
 - (ii) the Western Ringtail Possum Management Plan must be submitted to the *CEO* for approval prior to commencing works;
 - (iii) the Permit Holder must implement and adhere to the approved Western Ringtail Possum Management Plan.
- (b) In relation to the area cross-hatched yellow in Figure 1 of Schedule 1, the permit holder must engage a *fauna specialist* to inspect that area, including all hollows and *dreys* immediately prior to, and for the duration of clearing activities, for the presence of western ringtail possum(s) (*Pseudocheirus occidentalis*) and south-western brush-tailed phascogales (*Phascogale tapoatafa*).
- (c) Clearing activities must cease immediately in any area where fauna referred to in condition 7(b) are identified until either:
 - (i) the south-western brush-tailed phascogale(s) and/or western ringtail possum(s) individual has moved on from that area to adjacent *suitable habitat*; or
 - (ii) the south-western brush-tailed phascogale(s) and/or western ringtail possum(s) individual has been removed by a *fauna specialist*.
- (d) Any western ringtail possum(s) individual removed in accordance with condition 7(c)(ii) must be relocated by a *fauna specialist* to a *suitable habitat* within the area(s) cross-hatched red in Figure 2 of Schedule 1, or an alternative area identified in consultation with the Department of Biodiversity, Conservation and Attractions (DBCA), as approved by the *CEO*.
- (e) Where fauna is identified under condition 7(b) and noting actions under condition 7(c), the permit holder must within 14 calendar days provide the following records to the *CEO*:
 - (i) the number of individuals identified;
 - (ii) the date each individual was identified;
 - (iii) the location where each individual was identified recorded using a Global

Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

- (iv) the number of individuals removed and relocated;
- (v) the date each individual was removed;
- (vi) the method of removal;
- (vii) the date each individual was relocated;
- (viii) the location where each individual was relocated to, recorded using a GPS unit set to GDA94, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
- (ix) details pertaining to the circumstances of any death of, or injury sustained by, an individual.

8. Revegetation - mitigation

- (a) The Permit Holder must, within three (3) months of undertaking clearing authorised under this Permit:
 - (i) engage an *environmental specialist* to prepare a *revegetation plan*, in consultation with DBCA and the Shire of Augusta-Margaret River, for the revegetation and rehabilitation required under condition 8(b). This plan will be in accordance with DWER's *A Guide to Preparing Revegetation Plans for Clearing Permits*;
 - (ii) submit the plan required under Condition 8(a) of this permit to the *CEO* for approval.
- (b) The Permit Holder must, within six (6) months of the commencement of clearing authorised under this Permit:
 - (i) undertake deliberate *planting* of at least 118 trees within the area cross-hatched red in Figure 3 of Schedule 1, or an alternative area identified in consultation with DBCA and the Shire of Augusta-Margaret River, as otherwise approved by the *CEO*;
 - (ii) the revegetation area shall include a combination of *Agonis flexuosa*, *Corymbia calophylla*, *Eucalyptus diversicolor* and *Eucalyptus marginata* as per the revegetation plan required and approved by the *CEO* under Condition 8(a)(i) and 8(a)(ii) of this permit;
 - (iii) ensure only *local provenance* propagating material is used for revegetation activities;
 - (iv) ensure *planting* is undertaken at the *optimal time*;
 - (v) ensure seedlings are of a suitable size of at least 1 metre in height; and
 - (vi) undertake *weed* control and watering of seedlings for at least three years post *planting*.
- (c) the Permit Holder must, within 24 months of *planting* the trees in accordance with condition 8(b)(i) of this Permit:
 - (i) engage an *environmental specialist* to make a determination that the planted trees will survive;
 - (ii) if the determination made by the *environmental specialist* under condition 8(c)(i) is that all planted trees will not survive, the Permit Holder must plant additional trees that will result in 118 trees persisting within the areas determined by the approved revegetation plan;

- (iii) where additional planting of trees is undertaken in accordance with condition 8(c)(ii), the Permit Holder must repeat the activities required by conditions 8(b)(i)-(vi), and 8(c) of this Permit.

PART III - RECORD KEEPING AND REPORTING

9. 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 <i>clearing</i> activities generally	<ul style="list-style-type: none"> (a) the number and species of trees cleared; (b) the location where the <i>clearing</i> 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) actions taken to avoid, minimise, and reduce the impacts and extent of <i>clearing</i> in accordance with condition 4; and (e) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with condition 5; (f) the date that construction commenced in accordance with condition 6; (g) actions taken to manage and mitigate impacts to western ringtail possums and south-western brush-tailed phascogales in accordance with condition 7; (h) actions taken to revegetate in accordance with condition 8.

10. Reporting

The permit holder must provide to the *CEO* the records required under condition 9 of this permit when requested by the *CEO*.


DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
<i>CEO</i>	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
<i>clearing</i>	has the meaning given under section 3(1) of the EP Act.
<i>condition</i>	a condition to which this clearing permit is subject under section 51H of the EP Act.
<i>drey</i>	means the nest of a western ringtail possum (<i>Pseudocheirus occidentalis</i>)
<i>dieback</i>	means the effect of <i>Phytophthora</i> species on native vegetation.
<i>department</i>	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.
<i>environmental specialist</i>	means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 2 years work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the CEO as a suitable environmental specialist.
<i>EP Act</i>	<i>Environmental Protection Act 1986</i> (WA)
<i>fauna specialist</i>	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the <i>Biodiversity Conservation Act 2016</i> .
<i>fill</i>	means material used to increase the ground level, or to fill a depression.
<i>local provenance</i>	means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same IBRA subregion of the area cleared.
<i>mulch</i>	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
<i>native vegetation</i>	has the meaning given under section 3(1) and section 51A of the EP Act.
<i>optimal time</i>	means the period from May to October for undertaking planting and seeding
<i>planting</i>	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species
<i>rehabilitate/ rehabilitated / rehabilitation</i>	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
<i>revegetate / vegetated / revegetation</i>	means the re-establishment of a cover of local provenance native vegetation in an area using methods such as natural regeneration, direct seeding and/or planting, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
<i>suitable habitat (western ringtail possum)</i>	means habitat known to support western ringtail possums (<i>Pseudocheirus occidentalis</i>) within the known current distribution of the species, typically characterised by abundant foliage, presence of suitable nesting structures such as tree hollows, as well as high canopy cover and continuity. Known habitat includes peppermint (<i>Agonis flexuosa</i>) dominated woodlands, jarrah (<i>Eucalyptus marginata</i>) and marri (<i>Corymbia calophylla</i>) forests, riparian vegetation with a canopy of Bullich (<i>Eucalyptus megacarpa</i>) or flooded gum (<i>Eucalyptus rudis</i>), karri (<i>Eucalyptus diversicolor</i>) forests, sheoak (<i>Allocasuarina fraseriana</i>)

Term	Definition
	dominated woodlands, and other stands of myrtaceous trees growing near swamps, watercourses or floodplains.
<i>suitable habitat (south-western brush-tailed phascogales)</i>	means habitat known to support south-western brush-tailed phascogales (<i>Phascogale tapoatafa</i>) within the known current distribution of the species, typically characterised by open woodlands that contain hollow-bearing trees but a sparse ground cover.
<i>weeds</i>	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.


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Ryan Mincham
 MANAGER
 NATIVE VEGETATION REGULATION

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

22 January 2021

Schedule 1

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

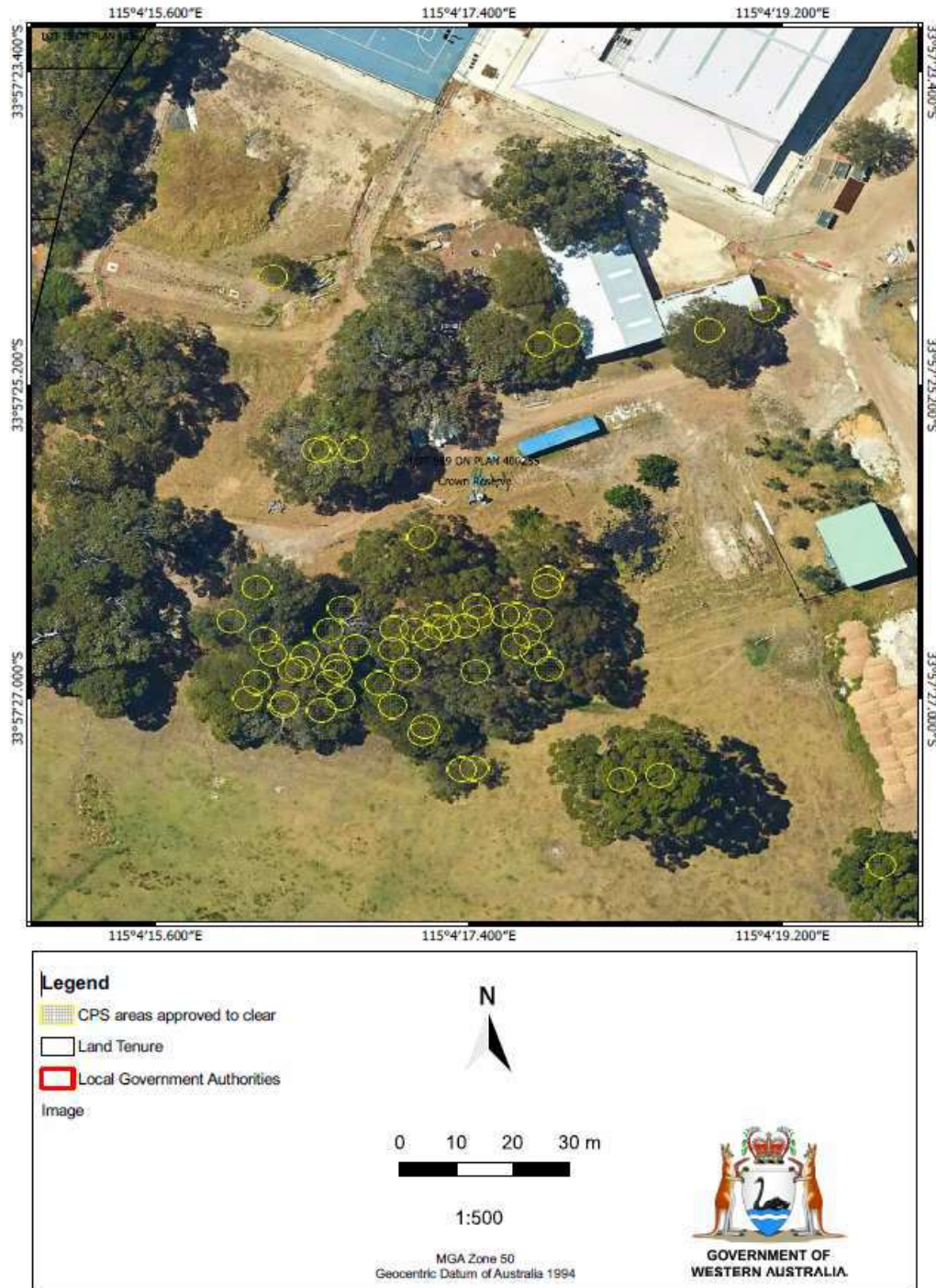


Figure 1

The boundary of the area defined as *suitable habitat* is shown in the map below (Figure 2).

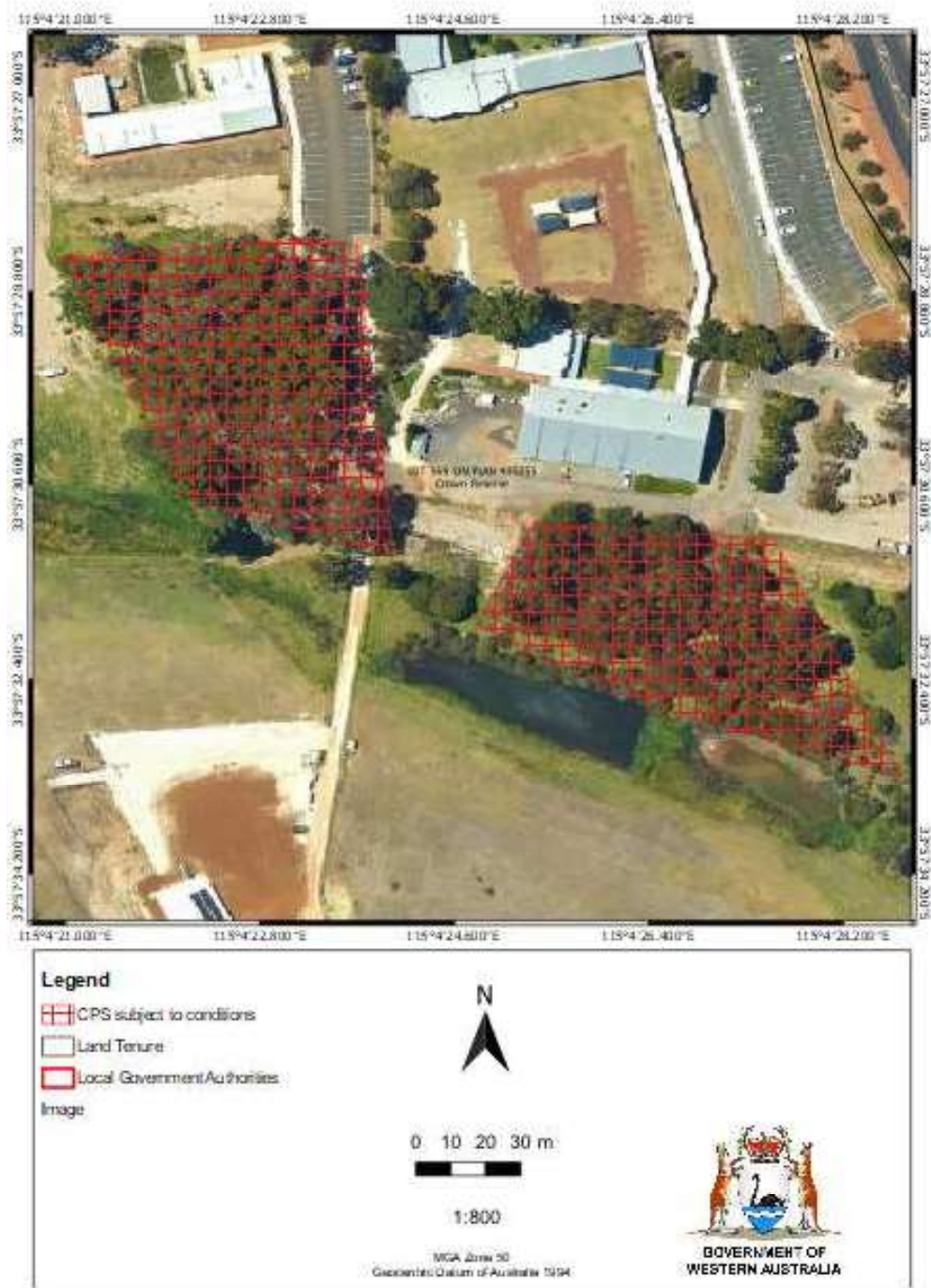


Figure 2

The boundary of the area within which revegetation is to occur is shown in the map below (Figure 3)

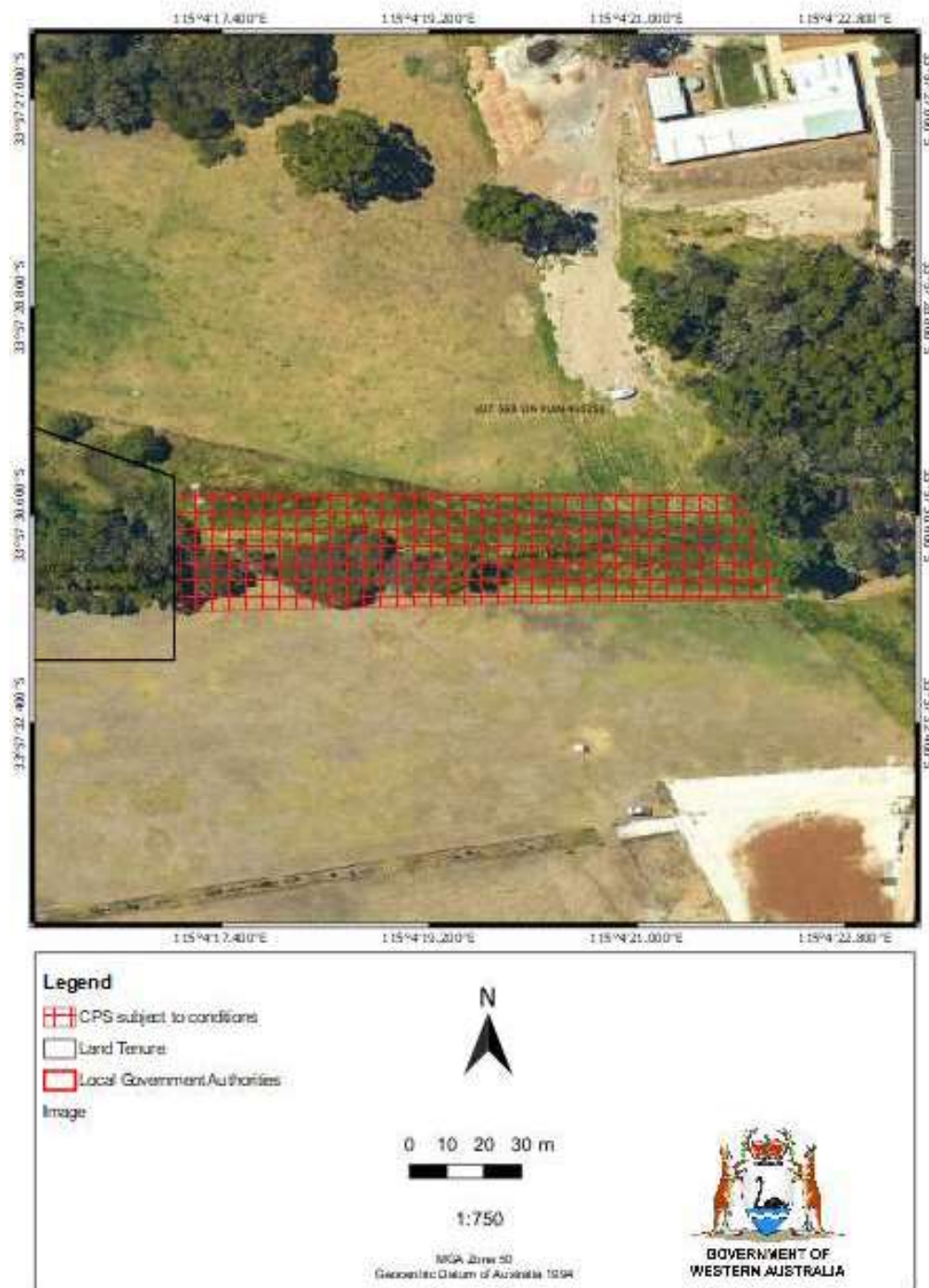


Figure 3



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9121/1
Permit type:	Purpose permit
Applicant name:	Department of Finance
Application received:	24 November 2020
Application area:	59 native trees
Purpose of clearing:	To facilitate the construction of a sporting oval.
Method of clearing:	Mechanical Removal
Property:	Lot 569 on Deposited Plan 400255
Location (LGA area/s):	Shire of Augusta-Margaret River
Localities (suburb/s):	Margaret River

1.2. Description of clearing activities

The vegetation proposed to be cleared consists of 59 individual native trees that are on the site of a proposed extension to the Margaret River Senior High School sporting facilities (see Figure 1, Section 1.5). The trees are scattered within the property and stretch over an area 150 metres in length.

1.3. Decision on application

Decision:	Granted
Decision date:	22 January 2021
Decision area:	59 native trees, 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 E.1), the findings of a flora and fauna survey (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 construction of the oval is part of the South West Recovery Plan (Government of Western Australia, 2020).

The assessment identified that the proposed clearing would result in:

- the loss of native vegetation that is suitable habitat for *Pseudocheirus occidentalis* (Western Ringtail Possum);
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values; and
- potential land degradation in the form of wind 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 have long-term adverse impacts on fauna species, or the conservation status of fauna species and can be managed to the extent that it will unlikely lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures.

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 and dieback;
- ensure construction commences within 3 months of clearing to reduce wind erosion;
- implement fauna management measures prior to, and for the duration of clearing;
- prepare and implement a fauna management plan specific to the monitoring of western ringtail possums; and
- undertake revegetation consisting of the planting of 118 native trees of suitable species within a nearby area to provide improved future habitat for black cockatoo species and western ringtail possums, including canopy connectivity.

1.5. Site map



Figure 1 Map of the application area

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

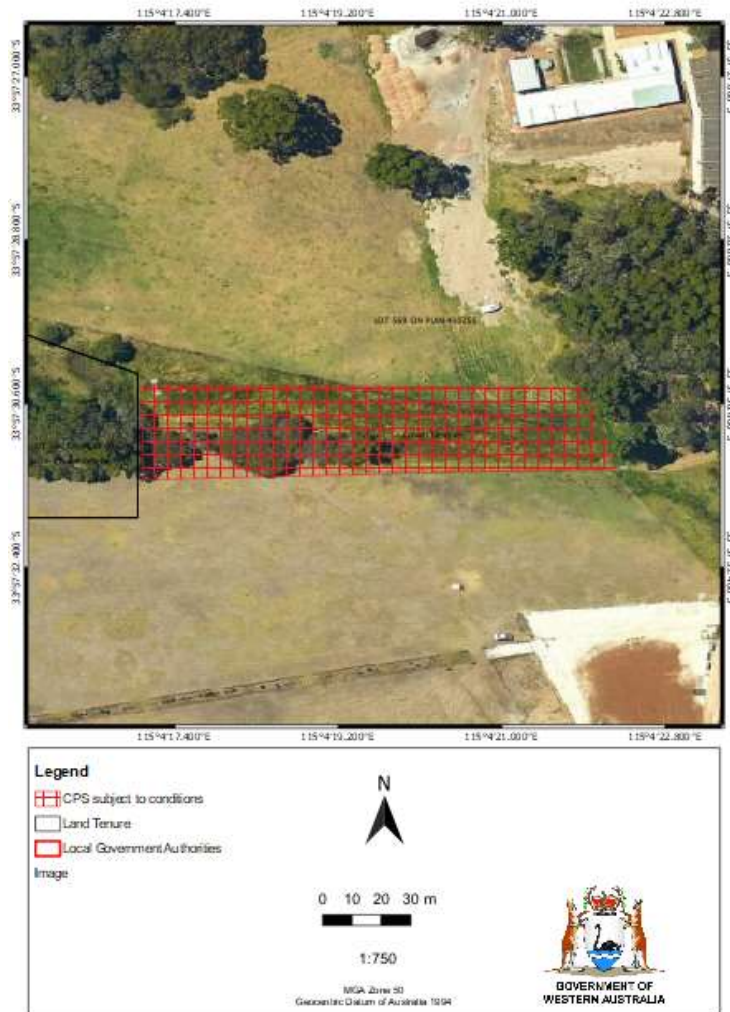


Figure 2 Map of the application area

The area cross-hatched red indicates the area within which revegetation should occur as noted in condition 8 of the Permit. The permit condition also allows for the identification of an alternative site in consultation with the Department of Biodiversity, Conservation and Attractions and the Shire of Augusta-Margaret River.

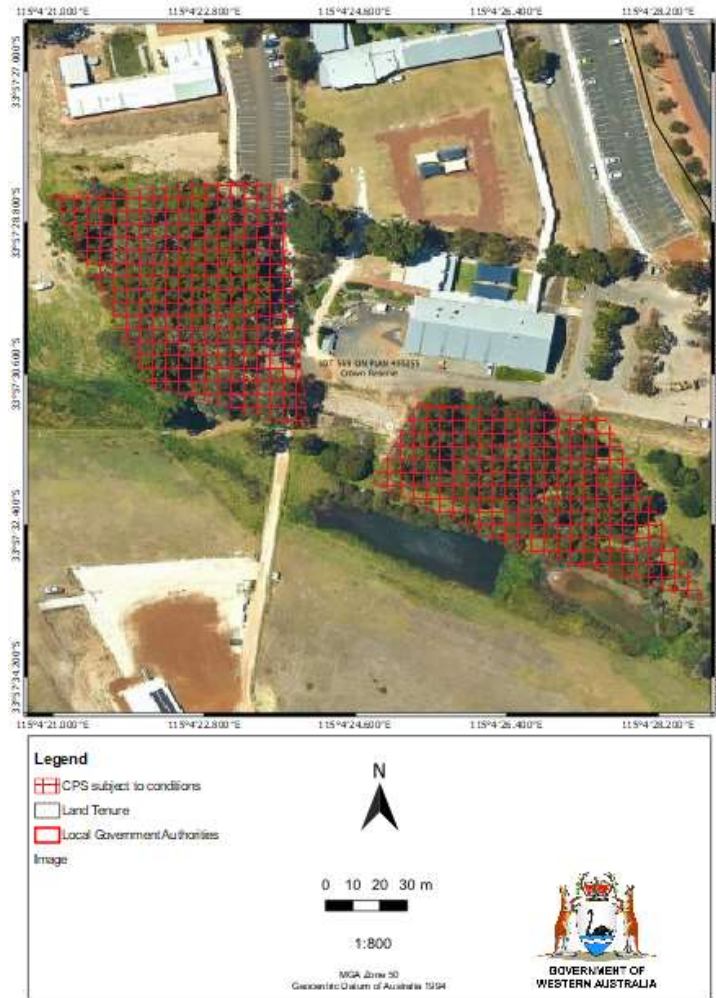


Figure 3 Map of the application area

The area cross-hatched red indicates the area to which fauna species can be relocated under condition 7 of the Permit. The permit condition also notes that an alternative site may be identified in consultation with the Department of Biodiversity, Conservation and Attractions.

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 polluter pays principle
- 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)

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 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.

Evidence was provided by the applicant, demonstrating that the siting of the oval was located in an area which contained parkland cleared vegetation, minimising the removal of high-quality remnant vegetation (Department of Finance, 2020). The applicant also proposed to retain 18 large trees of varying species, including *Corymbia calophylla* (15), *Eucalyptus diversicolor* (1), *Eucalyptus globulus* (1) and *Eucalyptus marginata* (1). These trees are considered to be potential Black Cockatoo roosting trees. Two of the *C. calophylla* trees contain hollows (<150mm) considered suitable to support the South-Western Brush-Tailed Phascogale. Six scattered *Agonis flexuosa* will also be retained on site. A total of 24 trees of varying species, two of which contains hollows, will be retained within the site.

Given the presence of hollow bearing trees and known habitat for Western Ringtail Possums (WRP), the applicant has committed to engaging an experienced fauna specialist immediately prior to and for the duration of the clearing works being undertaken, to inspect the vegetation for evidence of recent use or occupation by South-Western Brush-Tailed Phascogale or WRP. Should occupation of the dreys, *A. flexuosa* (peppermint) or hollow bearing trees be confirmed, the vegetation will only be cleared after a repeat inspection undertaken by a qualified fauna specialist confirms that they are no longer occupied by Western Ringtail Possums or South-Western Brush-Tailed Phascogale.

The clearing permit includes condition relating to fauna management based on current information and advice received during the assessment.

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 that the impacts of the proposed clearing present a risk to biological values (fauna), significant remnant vegetation, and land and water resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (fauna) - Clearing Principles (b)

Assessment

Of the 43 conservation significant fauna species with records in the local area (10 kilometre radius), ten are known to be marine or freshwater species, and therefore the application area does not present suitable habitat. Five species recorded within the local area are known to be locally extinct and one completely extinct, including *Macrotis lagotis* (Bilby), *Myrmecobius fasciatus* (Numbat), *Leipoa ocellata* (Malleefowl), *Psophodes nigrogularis nigrogularis* (Western Whipbird), *Atrichornis clamosus* (Noisy Scrub Bird) and *Potorous platyops* (Broad-faced Potoroo) (EX) respectively.

Twenty fauna species were considered as a low likelihood to occur within the application area based on their known habitat preferences and the habitat within the area applied to clear. One species was considered a medium likelihood to be found within the application area; *Phascogale tapoatafa wambenger* (South-Western Brush-Tailed Phascogale). Four species were considered highly likely to occur within the application area based on the habitat available and their known habitat preferences. This included *Calyptorhynchus baudinii* (Baudin's Cockatoo), *Calyptorhynchus latirostris* (Carnaby's Cockatoo), *Calyptorhynchus banksii naso* (Forest Red-Tailed Black

Cockatoo), collectively known as black cockatoos and *Pseudocheirus occidentalis* (Western Ringtail Possum). The conservation listings for the above species can be found in Appendix B.4.

Black Cockatoo

Carnaby's cockatoo and Baudin's cockatoo are listed as Endangered and Forest Red-Tailed black cockatoo (FRTBC) is listed as Vulnerable under the Western Australian *Biodiversity Conservation Act 2016*. All three have the same listing categories under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Black cockatoos' nest in hollows in live or dead trees of Karri, Marri, Wandoo, Tuart, Salmon Gum, Jarrah, Flooded Gum, York Gum, Powder Bark, Bullich and Blackbutt (DotEE, 2017). Breeding habitat or 'habitat tree' is defined in the EPBC Act referral guidelines as 'trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow' (DotEE, 2017). The application area is within the known breeding range of Baudin's and Carnaby's black cockatoo and the 'core' range of FRTBC, and therefore, is within the known range for all three black cockatoo species.

A review of the available databases indicated the application area is within 12 kilometres of 17 mapped black cockatoo roosting sites. The local area does not contain any mapped black cockatoo breeding sites but does contain 699 previous records of black cockatoo species, the closest located 236 metres away.

The 59 native trees proposed to be removed comprise of:

- 23 *Agonis flexuosa* (peppermint trees)
- 13 *Corymbia calophylla* (marri)
- 19 *Eucalyptus cornuta* (yate)
- 2 *Eucalyptus diversicolor* (karri), and
- 2 *Eucalyptus marginata* (jarrah).

Of the trees listed above, 13 of these trees were measured to have a DBH of >500 millimetres, including eight Marri, three Yate and two Karri. Of the thirteen habitat trees, a Karri, was surveyed to contain two hollows (Ecosystem Solutions, 2020). The survey states that these hollows are too narrow (<150 mm) to be utilised by black cockatoo species for breeding purposes (Ecosystem Solutions, 2020). Therefore, this Karri tree and the wider application area is not considered to be currently suitable to be used as a breeding site by black cockatoos.

The construction of the oval will also require the removal of four *Corymbia maculata* trees (spotted gum). The spotted gum is not native to Western Australia and therefore is not defined as *native vegetation* under the EP Act and not subject to this assessment.

Given the proximity to water sources such as the Margaret River and other tributaries, the trees within the application area may offer potential roosting habitat. The applicant has proposed to retain eighteen (18) large trees within the proposed works area, including fifteen Marri, one Karri, one Tasmanian blue gum and one Jarrah (Ecosystem Solutions, 2020). Seven small trees (peppermint) are also being retained. The proposed clearing will not remove all large trees within the development proposal, ensuring black cockatoos still have roosting opportunities in the immediate vicinity of the applied clearing area.

The referral guidelines indicate while breeding, black cockatoos will generally forage within a 6–12 kilometre radius of their nesting site. Following breeding, black cockatoos assemble into flocks and move through the landscape searching for food, usually foraging within 6 kilometre of a night roost (DotEE, 2017). This variable range indicates large areas of foraging habitat are required to support black cockatoo populations. Cumulative impacts of the loss of remnant vegetation restrict the availability of food sources for black cockatoos (DotEE, 2017).

Carnaby's cockatoos have preference for feeding habitat that includes jarrah and marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as *Banksia* sp., *Hakea* sp. And *Grevillea* sp., also insects and insect larvae; pith of kangaroo paw (*Anigozanthos flavidus*); juice of ripe persimmons; tips of *Pinus* spp. and seeds of apples and pears (DotEE, 2017). Forest red-tailed black cockatoo's have preference for seeds of jarrah and marri in woodlands and forest, and edges of karri forests, including wandoo and blackbutt, *Eucalyptus caesia*, *E. erythrocorys*, *Allocasuarina* cones, fruits of snottygobble (*Persoonia longifolia*) and mountain marri (*Corymbia haematoxylon*), and some introduced eucalypts such as river red gum (*E. camaldulensis*) and flooded or rose gum (*E. grandis*). On the Swan Coastal Plain, Forest Red-tailed black cockatoos often feed on introduced Cape lilac (*Melia azedarach*) (DotEE, 2017). Baudin's cockatoo prefer native shrubland, kwongan heathland and woodland on seeds, flowers and nectar of native proteaceous plant species (*Banksia* spp., *Hakea* spp., *Dryandra* spp., and *Grevillea* spp.), as well as *Callistemon* spp. and marri. Also seeds of introduced species including *Pinus* spp., *Erodium*

spp., wild radish, canola, almonds and pecan nuts; insects and insect larvae; occasionally flesh and juice of apples and persimmons.

The application proposes to remove known black cockatoo foraging species including marri (13), karri (2) and jarrah (2). The spotted gum (5) and *E. cornuta* (19) are not known to be foraging resources for black cockatoo's according to any of the literature referred to by the Department (Groom, 2011; Johnstone, 2013; DotEE, 2017; DPaW, 2013). The application area proposes to remove a total of 17 foraging trees. The survey provided by the applicant states that black cockatoo's likely utilise the application area opportunistically as a feeding site as it is within their range and contains known foraging species, however, they are unlikely to be reliant on the site for habitat.

The application area is located approximately 3 kilometres to the west of the Jarrah Forrest IBRA Bioregion. This IBRA region has been previously mapped for its foraging potential (Glossop et al., 2011). Of the mapped potential foraging habitat, 6,531 hectares is contained within the local area. Given the Warren IBRA region has never been mapped, this habitat is a severe under representation of the total foraging habitat within the local area. Further spatial analysis of those vegetation complexes in the local area mapped to contain Black Cockatoo foraging species and retaining their remnant vegetation, indicates a total of 11,932 ha of foraging habitat, covering 40 per cent of the local area. Of this, 5,290 ha or 44 per cent is located in Department of Biodiversity Conservation and Attractions (DBCA) managed land including National Park's, State Forest's and DBCA managed timber reserves.

Noting the above and the presence of approximately 56 per cent coverage of remnant vegetation in the local area, the Department considers that abundant foraging resources would be located within the local area. Therefore, the removal of 17 foraging trees is unlikely to represent a significant impact to foraging resources for black cockatoos.

The Department determined the application is not likely to impact significant foraging, breeding or roosting habitat for any of the black cockatoo species in Western Australia.

Western Ringtail Possum (WRP)

The *Western Ringtail Possum (Pseudocheirus occidentalis) Recovery Plan* outlines strategies to slow the decline in population size, extent and area of occupancy through managing major threatening processes affecting the subpopulations and their habitats, and allowing the persistence of the species in each of the identified key management zones: Swan Coastal Plain, southern forests and south coast (DPaW, 2017). The application area is located within the Swan Coastal Plain management zone.

Peppermint trees (*Agonis flexuosa*) are important habitat for Western Ringtail Possums (WRP's), listed as Critically Endangered under the *BC Act* and the *EPBC Act*. Populations in the Swan Coastal Plain management zone are associated with stands of myrtaceous trees (usually *Agonis flexuosa*) growing near swamps, watercourses or floodplains, and at topographic low points which provide cooler and often more fertile conditions (Jones, 2001; de Tores et al., 2004). Habitat critical to survival for WRP comprises long unburnt mature remnant peppermint woodlands with high canopy continuity and high nutrient foliage with minimal periods of summer moisture stress, and habitat connecting patches of remnants (Jones et al. 1994, Jones et al. 2004, Wayne et al. 2006).

The fauna survey provided by the applicant identified three WRP dreys at three separate locations and scats at an additional two locations. No WRP individuals were observed during any of the five visits to the site (Ecosystem Solutions, 2020).

The supporting information stated a tree survey was conducted by Paperbark Technologies (2020), which indicated 23 *Agonis flexuosa* (peppermint) trees, with a total tree canopy of 0.15 ha are proposed to be cleared to facilitate the creation of the oval (RPS, 2020). The application area was mapped in degraded (Keighery, 1994) condition due to the parkland cleared state and complete lack of understory. Given the complete lack of understory, barring invasive grasses, the vegetation in the application area is more likely to be completely degraded, based on the description in Appendix E. The area proposed to clear is located between a commercial area to the west, open pastureland to the south and educational facilities to the north and east. There are minor linkages to remnant vegetation patches and limited habitat connectivity due to the built nature of the land immediately adjacent to the applied clearing area.

DBCA undertook a site inspection in December 2020 in response to a request for advice from DWER. The site inspection by DBCA confirmed that WRP utilise the proposed clearing area with identification of dreys and scats noted within during the inspection. The inspection noted the presence of individual WRP within the adjacent remnants during the inspection. DBCA also noted previous records of WRP within and adjacent to the application area and provided recommendations on fauna management conditions to reduce impacts to WRP (DBCA, 2020)

Given the habitat critical to the survival of the species includes peppermint woodlands with high canopy continuity and habitat connecting patches of remnants, the Department determined that the application area does not represent significant habitat for the species, and the removal of the vegetation would not significantly impact on the conservation status of the species.

As discussed under section 3.1, the applicant has committed to engaging an experienced fauna specialist immediately prior to and for the duration of the clearing works being undertaken, to inspect the vegetation for evidence of recent use or occupation by WRP. Should occupation of the dreys or *A. flexuosa* (peppermint) trees by the WRP be confirmed, the dreys and peppermint trees will only be cleared after a repeat inspection undertaken by a qualified fauna specialist confirms that they are no longer occupied by WRP. The conditions applied to reduce impact to individual WRPs are listed below.

South-Western Brush-Tailed Phascogale

In south-west WA, this species is known to occur in dry sclerophyll forests and open woodlands that contain hollow-bearing trees, with records less common in higher rainfall areas. This species is said to occur in highest densities Perup/Kingston area, Collie River valley, and near Margaret River and Busselton (DEC, 2012). Within the proposed works area, one Karri tree is proposed to be removed which has two hollows. Ecosystem Solutions (2020) states that the hollows in this tree are too narrow (<150 mm) to be used by black cockatoos. However, they could potentially be used for nesting by the south-western brush-tailed phascogale.

Given the application area is parkland cleared vegetation, the Department determined that the removal of the vegetation would not significantly impact on the conservation status of the species. The removal of the hollow bearing Karri tree would not result in the removal of significant habitat for the species. Two Marri trees with suitably sized hollows (<150 mm) to support South-Western Brush-Tailed Phascogale nesting are proposed to be retained within the proposed works area, which will maintain existing nesting opportunities at the site.

As discussed under section 3.1, the applicant has committed to engaging an experienced fauna specialist to the inspect the vegetation for evidence of recent use or occupation by South-Western Brush-Tailed Phascogale, immediately prior to and for the duration of the clearing activities. The conditions applied to reduce impact to individual South-Western Brush-Tailed Phascogale are listed below.

Conclusion

Based on the above assessment, the proposed clearing will result in the removal of:

- 0.15 ha of degraded (Keighery, 1994) habitat for Western Ringtail Possums;
- 17 trees known to be foraging resources for all three species of black cockatoos
- One karri known to contain two hollows with dimensions suitable for South-Western Brush-Tailed Phascogale nesting.

For the reasons set out above, it is considered that the impacts of the proposed clearing on the fauna habitat within the application area can be managed by engaging a qualified and experienced fauna specialist to the inspect the vegetation for evidence of recent use or occupation by conservation significant fauna, immediately prior to, for the duration of and after the clearing occurs.

The applicant may have notification responsibilities under the EPBC Act for impacts to Baudin's, Carnaby's, and Forest Red-Tailed Black Cockatoo and their habitats, as set out in the EPBC Act, *Revised draft referral guideline for three threatened black cockatoo species* and *Significant impact guidelines for the vulnerable western ringtail possum (Pseudocheirus occidentalis) in the southern Swan Coastal Plain, Western Australia*. The applicant has been advised to contact the federal Department of Water, Agriculture and the Environment (DAWE) to discuss EPBC Act referral requirements.

Conditions

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

- Fauna Management – Western Ringtail Possum and South-Western Brush-Tailed Phascogale
 - The permit holder must prepare a WRP management plan to be approved (prior to commencing clearing) for the management of any displaced or removed individuals;
 - The applicant will engage an experienced fauna specialist to the inspect the vegetation for evidence of occupation by south-western brush-tailed phascogale and WRP, immediately prior to and for the duration of the clearing activities;

- Clearing cannot occur when individual south-western brush-tailed phascogale or WRP individuals are occupying the clearing area until the individuals have moved or have been removed by a fauna specialist;
- Relocation can occur when carried out by a suitably qualified person to suitable habitat;
- A revegetation plan is to be prepared and submitted for approval for the planting of 118 native trees within a designated area.

3.2.2. Significant remnant vegetation and conservation areas - Clearing Principles (e)

Assessment

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The application area is mapped within the Warren IBRA Bioregion and Vegetation Complexes C1 and Cw1 (Mattiske and Havel, 1998), forming part of the South West Botanical Province, which has a very high degree of botanical species diversity (Mitchell, Williams & Desmond, 2002). The descriptions of the vegetation complexes can be found in Appendix B.2.

The vegetation survey of the application area consisted of one relevé, which described the vegetation across the entire site (Ecosystem Solutions, 2020). The description of the vegetation can be found in Appendix E. Although the description of the application area was broadly consistent with that described in the mapped vegetation complexes, the application area was described as parkland cleared, with a complete lack of native understorey and dominated by invasive weeds and grasses (Ecosystem Solutions, 2020). The survey (Ecosystem Solutions, 2020) classified this vegetation as degraded (Keighery, 1994), however, given the parkland cleared and invasive ground cover, the application area is more likely to be considered as completely degraded, as per the description in Appendix C (DEC, 2009). The areas devoid of vegetation would then be considered as 'cleared'.

Given the completely degraded (Keighery, 1994) condition of the vegetation applied to clear, complete lack of native understorey and habitat connectivity, the Department determined that the vegetation was not representative of its mapped pre-European vegetation complex and not likely to represent a significant remnant of native vegetation. The removal of the vegetation would not impact on the vegetation complexes as they had been previously altered to the point where they no longer resemble their natural species composition or structure.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on 59 trees in a completely degraded (Keighery, 1994) and parkland cleared condition does not constitute a significant residual impact.

Conditions

No management conditions required.

3.3. Relevant planning instruments and other matters

Other relevant authorisations required for the proposed land use include:

- A section 40 authorisation under the *Biodiversity Conservation Act 2016* will be required for the management activities associated with the relocation of WRP.

The applicant advised the Department that local government approvals are not required, and that the proposed clearing is consistent with the Shire's Local Planning Scheme. The applicant provided the following statement in an email on 23 December 2020: 'Public works are exempt from requiring a planning approval outside a region scheme in accordance with s.6 of the *Planning and Development Act 2005*. However there is a requirement to consult with the local authority when plans are being formulated and for the development to have regard to the purpose and intent of the local planning scheme and orderly and proper planning and preservation of amenity in the area. As Margaret River is not located within the Metropolitan, Peel or Great Bunbury Region Scheme areas, there is no requirement for a planning approval from the local authority for the proposed works in Margaret River'. The applicant confirmed that the Shire had been consulted during the design process and are aware of the planned development.

The Shire of Augusta-Margaret River did not provide any direct objections to the proposed clearing, however, recommended the implementation of DBCA's *Procedures to Minimise the Risk to Western Ringtail Possums during Vegetation Clearing and Building Demolition* (2015), including the use of a fauna spotter and handler during clearing. In addition, given the loss of fauna habitat in this clearing permit through the removal of up to 59 native trees, the Shire recommended that a condition be included on the clearing permit requiring Margaret River Senior High School to undertake a revegetation project to provide and enhance fauna habitat at the high school site. The Shire recommended planting local species in a suitable location that either establishes new habitat for fauna or provides habitat connectivity with an existing area of native vegetation. The Shire recommended this be considered separate

to any landscaping plans for the oval and immediate environs. The conditions applied to the Permit are largely consistent with these recommendations and those of DBCA.

Several Aboriginal sites 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 B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared includes 59 individual trees, located within the intensive land use zone of Western Australia. It is adjacent to the Margaret River Senior High School and the Southern Regional TAFE – Margaret River Campus. The proposed clearing area is comprised of a mix of native and non-native trees including and the understory has been previously cleared for used by the surrounding education facilities.</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 56 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The application area does not provide any formal or informal ecological linkages and the properties to the east and west have been developed to include retail, commercial and educational infrastructure. The area to the south of the application area has been previously cleared and currently comprises open pasture.</p>
Conservation areas	<p>The application area does not intersect any known or mapped conservation areas, with the closest, Wooditjup National Park, located approx. 1.5 kilometres to the north. The local area also contains Keenan State Forest and Leeuwin-Naturaliste National Park.</p>
Vegetation description	<p>A vegetation survey (Ecosystem Solutions, 2020) indicated the vegetation within the proposed clearing area consists of <i>Eucalyptus cornuta</i> (Yate), <i>Corymbia citriodora</i> (Lemon Scented Gum), <i>Agonis flexuosa</i> (Peppermint), <i>Corymbia calophylla</i> (Marri), <i>Eucalyptus patens</i> (Swan River Blackbutt) open forest over Peppermint and Yate low woodlands over introduced grasses. The full survey descriptions and maps are available in Appendix E.</p> <p>This is broadly consistent with the South West Forest mapped vegetation type (Mattiske and Havel, 1998):</p> <ul style="list-style-type: none"> • C1: Open to tall open forest of <i>Eucalyptus marginata subsp. marginata</i>-<i>Corymbia calophylla</i>-<i>Banksia grandis</i> on lateritic uplands in the hyperhumid zone; and • Cw1: Mixture of open forest to woodland of <i>Eucalyptus diversicolor</i>-<i>Corymbia calophylla</i> and woodland of <i>Eucalyptus marginata subsp. marginata</i> -<i>Corymbia calophylla</i> on slopes and low woodland of <i>Melaleuca preissiana</i>-<i>Banksia littoralis</i> on depressions in the hyperhumid zone. <p>The mapped vegetation types retain approximately 34 and 28 per cent of the original extent respectively (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Vegetation survey (Ecosystem Solutions, 2020) indicate the vegetation within the proposed clearing area is in Completely Degraded to Degraded condition (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> • Degraded - Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing. • Completely Degraded - The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs. <p>The full Keighery (1994) condition rating scale is provided in Appendix D. The full survey descriptions and mapping are available in Appendix E.</p>

Characteristic	Details
Climate and landform	The Bureau of Meteorology (BOM) website indicates the nearby town of Witchcliffe (seven kilometres south) has a mean annual minimum temperature of 10.8°C and maximum temperature of 21.4°C (1999-2020) and a mean annual rainfall of 951.7 millimetres (1999-2000).
Soil description	The soil within the application area is mapped as 216CoCOu: Flats and gentles slopes (0-5 per cent gradient) with gravelly duplex (Forest Grove) and pale grey mottled (Mungite) soils.
Land degradation risk	The soils present within the application area indicate a low to nil risk of water erosion, phosphorus export, flooding, salinity and waterlogging, and a high risk of wind erosion and subsurface acidification (DPIRD, 2017).
Waterbodies	The desktop assessment and aerial imagery indicated that no watercourses or wetlands are present within the application area.
Hydrogeography	The application area is mapped in the Busselton-Capel Groundwater Area proclaimed under the <i>RIWI Act 1914</i> .
Flora	The local area (10 kilometres radius) indicates a total of 72 previous records from 20 different species of conservation significant flora, with the closest records located 572 metres away.
Ecological communities	The local area contains four records of the Priority 2 Ecological Community ' <i>Melaleuca lanceolata</i> forests, <i>Leeuwin Naturaliste Ridge</i> ', with the closest located 8.6 km west.
Fauna	The local area (10 kilometre radius) indicates a total of 1467 previous records from 43 different species of conservation significant fauna, with the closest record located 130 metres away. <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo) is the most recorded species with 521 sightings in the local area, with <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum) next with 231 sightings.

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*					
Warren	833,985.56	659,432.21	79.07	558,485.38	66.97
Vegetation complex					
Mattiske vegetation complex C1	18,981.79	6,540.87	34.46	2,286.01	12.04
Mattiske vegetation complex Cw1	6,144.37	1,726.07	28.09	592.86	9.65
Local area					
10km radius	294 399.02	165 061.84	56.07	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

B.3. Flora analysis table

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

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Franklandia triaristata</i>	P4	Y	Y	Y	2.66	1	Y
<i>Stylidium lowrieianum</i>	P3	Y	Y	Y	0.57	3	Y
<i>Caladenia excelsa</i>	T	Y	Y	Y	0.86	31	Y
<i>Pimelea ciliata subsp. longituba</i>	P3	Y	Y	Y	6.32	2	Y
<i>Acacia tayloriana</i>	P4	Y	Y	Y	8.56	1	Y
<i>Synaphea macrophylla</i>	P1	Y	Y	Y	6.61	1	Y
<i>Synaphea sp. Redgate Road (J. Scott 16)</i>	P1	Y	Y	Y	8.77	2	Y

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

B.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo)	EN	Y	Y	0.20	578	Y
<i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo)	EN	Y	Y	0.28	121	Y
<i>Calyptorhynchus banksii naso</i> (Forest Red-Tail Black Cockatoo)	VU	Y	Y	1.76	11	Y
<i>Pseudocheirus occidentalis</i> (Western Ringtail Possum)	CR	Y	Y	0.13	231	Y
<i>Tyto novaehollandiae novaehollandiae</i> (Masked Owl – Southwest)	P3	Y	Y	0.86	3	Y
<i>Phascogale tapoatafa wambenger</i> (South-Western Brushtail Phascogale)	CD	Y	Y	0.86	87	Y

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

B.5. Land degradation risk table

Risk categories	Land Unit 1
Wind erosion	>70% of the map unit has a high to extreme wind erosion hazard
Water erosion	<3% of map unit has a high to extreme water erosion risk
Salinity	<3% of map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	>70% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	<3% of the map unit has a moderate to high flood risk
Water logging	30-50% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	3-10% of map unit has a high to extreme phosphorus export risk

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 conservation significant flora assemblages of plants. The vegetation has been substantially altered from its pre-European state and is unlikely to represent a high level of biodiversity. The vegetation comprises five native tree species, two non-native tree species and ground cover invasive grasses (Ecosystem Solutions, 2020).</p> <p>The application area does represent suitable habitat for several conservation significant fauna species. The habitat may be significant for the local population of WRP, however, unlikely to be significant for the species as a whole. The vegetation is unlikely to represent significant habitat for the remaining fauna species.</p>	Not likely to be at variance	No
<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 contains potential foraging, roosting, habitat for Carnaby’s, Baudin’s and Forest Red-Tailed Black Cockatoos, as well as suitable habitat for the Western Ringtail Possum and South Western Brushtail Phascogale.</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>Given the understory of the applied clearing area has been previously ‘parkland cleared’ and is classified as completely degraded to degraded (Keighery, 1994) condition, the area proposed to be cleared is unlikely to contain habitat for flora species listed as ‘Threatened’ under the Commonwealth EPBC Act or state BC Act.</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 vegetation assemblages that are representative of any known or mapped state listed threatened ecological communities (TEC).</p>	Not likely to be 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 is inconsistent with the national objectives and targets for biodiversity conservation in Australia. Given the completely degraded (Keighery, 1994) condition of the vegetation applied to clear, complete lack of native understory and habitat connectivity, the</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>Department determined that the vegetation was not representative of its mapped pre-European vegetation complex and not likely to represent a significant remnant of native vegetation. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>		
<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> <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>	Not likely to be at variance	No
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 watercourses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	Not likely to be 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 are highly susceptible to wind erosion and subsurface acidification and not at risk of water erosion, nutrient export, salinity, flooding and waterlogging. Noting the extent of the application area and the condition of the vegetation, it is not likely that the proposed clearing will have an appreciable impact on land degradation. A management condition has been imposed on the permit to ensure the construction activities commence no later than three (3) months after the commencement of the clearing to reduce the risk of wind erosion.</p>	Not likely to be at variance	No
<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 watercourses, wetlands or Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be 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 likely to be 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 Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E. Biological survey information excerpts

Vegetation Code	Vegetation
Vegetation A - Yate, Lemon Scented Gum, Peppermint, Marri, Swan River Blackbutt open forest over Peppermint and Yate low woodlands over introduced grasses (R01)	<i>Eucalyptus cornuta</i> , * <i>Corymbia citriodora</i> , <i>Agonis flexuosa</i> , <i>Corymbia calophylla</i> , <i>Eucalyptus patens</i> open forest over <i>Agonis flexuosa</i> , <i>Eucalyptus cornuta</i> low woodland over * <i>Cirsium vulgare</i> scattered shrubs over * <i>Cenchrus clandestinus</i> and introduced annual tussock grassland.



Picture 1. Relve 1 (R01) (Ecosystem Solutions, 2020)



Picture 2. Relve 1 (R01) (Ecosystem Solutions, 2020)



Location details: Margaret River Senior High School
 Project: 20993
 Assessment date: November 2020
 Prepared by: L. Duffy
 Date aerial photo: Nov 2020

Vegetation Condition



- Completely degraded
- Degraded
- Lot Boundary
- Site Boundary
- Watercourse



Figure 1. Vegetation Condition Mapping for Margaret River Senior High School (Ecosystem Solutions, 2020)

Appendix E. Sources of information

E.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)

E.2. References

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