



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

### PERMIT DETAILS

Area Permit Number: 5377/3

File Number: 2012/007984-1

Duration of Permit: From 22 February 2013 to 22 February 2033

### PERMIT HOLDER

Peter John Marsh

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 10920 on Deposited Plan 203844, Smith Brook

Lot 141 on Deposited Plan 411837, Smith Brook

### AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 38 hectares of native vegetation within the area cross-hatched yellow on attached Plan 5377/3.

### CONDITIONS

#### 1. Period in which clearing is authorized

The Permit Holder shall not clear any native vegetation after 22 February 2028.

#### 2. Type of clearing authorized

To the extent authorised under this Permit, the Permit holder may undertake the following activities within the area cross-hatched yellow on Plan 5377/3:

- (a) clearing and burning of *understorey*;
- (b) *thinning* of karri (*Eucalyptus diversicolor*) trees; and
- (c) *culling* and burning of unsaleable trees.

#### 3. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in 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.

#### 4. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the 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 *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.

#### 5. Fauna management – retain *black cockatoo habitat trees*

- (a) Prior to undertaking any clearing authorised under this Permit, the Permit Holder must demarcate the three *black cockatoo habitat trees* containing suitable breeding hollows as identified within

the 'Black Cockatoo Habitat Tree Assessment CPS 5377/3' report prepared by Greg Harewood, at the following locations:

Tree ID	Species	Latitude	Longitude
10	Karri ( <i>Eucalyptus diversicolor</i> )	-34.362310113	116.194878119
12	Karri ( <i>Eucalyptus diversicolor</i> )	-34.360199434	116.196181479
15	Karri ( <i>Eucalyptus diversicolor</i> )	-34.356733975	116.197171469

- (b) The Permit Holder shall not clear within 10 metres of the trees as described in condition 5(a).

## 6. Vegetation management

- (a) Prior to undertaking any clearing authorised under this Permit, an *environmental specialist* must determine the species composition, structure and density of the *understorey* of areas proposed to be *thinned*.
- (b) The Permit Holder must retain a minimum of 2 *habitat trees* in each hectare authorised under this Permit, where they exist.
- (c) A minimum retention rate of 16m<sup>2</sup>/ha *basal area* is required within the area of clearing authorised under this Permit.
- (d) Prior to undertaking any clearing authorised under this Permit, the Permit Holder must exclude all *stock* from the areas subject to *thinning* activities.
- (e) The Permit Holder shall not clear native vegetation within 30 metres of the *riparian* vegetation of any *watercourse* or *wetland* within and/or adjacent to the area cross-hatched yellow on Plan 5377/3.
- (f) Within two years of 22 February 2028, the Permit Holder must:
- engage an *environmental specialist* to determine the species composition, structure and density of the *understorey* of areas subject to *thinning*; and
  - where, in the opinion of an *environmental specialist*, there is evidence that *understorey* will not recover and develop towards its pre-clearing composition, structure and density determined under condition 6(a), the Permit Holder must undertake *remedial action* at an *optimal time* within the next 12 months to ensure re-establishment of *understorey* prior to expiry of this Permit.

## 7. Records to be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
- the species composition, structure and density of the cleared area;
  - 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;
  - the date that the area was cleared; and
  - the size of the area cleared (in hectares).
  - actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 3 of this Permit;
  - actions taken to minimise the risk of the introduction and spread of dieback and weeds in accordance with condition 4 of this Permit; and
  - actions taken in accordance with condition 5 of this Permit.
- (b) In relation to vegetation management pursuant to condition 6 of this Permit:
- prior to clearing native vegetation authorised under this Permit, the species composition, structure and density of *understorey*;
  - the species and number per hectare of *habitat trees* retained;
  - the location of *habitat trees* retained, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - monitoring undertaken to ensure that the specified minimum *basal area* is retained;
  - photographs of the *understorey* taken at one year, two years and three years after completing clearing authorised under this Permit; and
  - a detailed description of the nature and extent of any *remedial actions* undertaken.

## 8. Reporting

- (a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:
  - (i) of records required under condition 7 of this Permit; and
  - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January and 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the *CEO* on or before 30 June of each year.
- (c) Prior to 22 November 2032, the Permit Holder must provide to the *CEO* a written report of records required under condition 7 of this Permit where these records have not already been provided under condition 8(a) of this Permit.

## DEFINITIONS

The following meanings are given to terms used in this Permit:

**basal area** is the method of expression of tree cover density in an area where the total area of tree trunk, whose diameter is measured at 1.5m above the ground, is expressed as square metres per hectares of land area;

**black cockatoo habitat tree(s)** means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater that contain hollows suitable for breeding by black cockatoo species;

**CEO** means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

**culled/ing** means the selective removal and/or killing of unsaleable trees for *thinning*, using methods including notching, felling or machine pushing;

**dieback** means the effect of *Phytophthora* species on native vegetation;

**dry conditions** means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

**environmental specialist** 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;

**fill** means material used to increase the ground level, or fill a hollow;

**habitat tree(s)** means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater, that contains or has the potential to develop hollows or roosts suitable for native fauna;

**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;

**optimal time** means the period from April to June for undertaking *direct seeding*, and the period from May to July for undertaking *planting*;

**remedial action/s** means for the purpose of this Permit, any activity that is required to ensure successful re-establishment of *understorey* to its pre-clearing composition, structure and density, and may include a combination of soil treatments and *revegetation*;

**riparian vegetation** has the meaning given to it in Regulation 3 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004;

**stock** means the horses, cattle, sheep, pigs and other non-indigenous grazing animals kept or bred on a property;

**thinned/ing** describes a silvicultural activity to promote the growth of selected trees by removing competing trees;

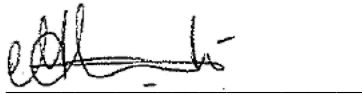
**understorey** means, for the purpose of this Permit, all native vegetation that does not include trees to be *culled* or subject to harvest.

**watercourse** has the meaning given to it in section 3 of the *Rights in Water and Irrigation Act 1914*;

**wetland/s** means an area of seasonally, intermittently or permanently waterlogged or inundated land, whether natural or otherwise, and includes a lake, swamp, marsh, spring, dampland, tidal flat or estuary; and

**weed/s** means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; 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.



Meenu Vitarana  
A/MANAGER  
NATIVE VEGETATION REGULATION

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

9 November 2020



# Plan 5377/3

116°11'2.400"E

116°11'31.200"E

116°12'0.000"E

34°21'21.600"S

34°21'46.800"S

34°22'12.000"S

34°21'21.600"S

34°21'46.800"S

34°22'12.000"S




116°11'2.400"E

116°11'31.200"E

116°12'0.000"E

## CPS layers


 CPS areas approved to clear

## base layers

 Road Centrelines

Cadastre - LGATE 218

## Map Layers

 Land TenureLGATE - 226

 Local Government Authorities

N



0 250 500 750 1000 m



1:12938

MGA Zone 50  
Geocentric Datum of Australia 1994



Meenu Vitarana  
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Officer with delegated authority under Section 20 of  
the Environmental Protection Act 1986



GOVERNMENT OF  
WESTERN AUSTRALIA





# Clearing Permit Decision Report

## 1. Application details

### Permit application details

Permit application No.: 5377/3  
Permit type: Area Permit

### Applicant details

Applicant's name: Mr Peter Marsh  
Application received date: 23 December 2019

### Property details

Property: Lot 10920 on Deposited Plan 203844, Smith Brook  
Lot 141 on Deposited Plan 411837, Smith Brook  
Local Government Authority: Shire of Manjimup  
Localities: Smith Brook

### Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
38		Mechanical	Timber harvesting

### Decision on application

Decision on Permit Application: Grant

Decision Date: 9 November 2020

#### Reasons for Decision:

The clearing permit application was received on 23 December 2019 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. The Delegated Officer determined that the assessment of the proposed clearing against the clearing principles had changed since the original assessment of Clearing Permit CPS 5377/1, and a full reassessment of the application was warranted. It has been concluded that the proposed clearing is at variance to Principle (f), may be at variance to Principles (a), (b) and (h), and is not likely to be at variance to any of the remaining clearing principles.

Through the assessment, it was identified that the application area comprises suitable breeding and foraging habitat for black cockatoo species. To mitigate and minimise impacts to black cockatoo species, conditions have been placed on the permit requiring:

- the retention of three trees identified to contain hollows which may be suitable for breeding by black cockatoos, including vegetation within ten metres surrounding each tree;
- the retention of a minimum of 2 habitat trees per hectare;
- a minimum retention of 16m<sup>2</sup>/ha basal area; and
- undertake remedial action to ensure re-establishment of the understorey.

To minimise impacts to the watercourses that lie between areas proposed to be cleared, the clearing permit contains a condition to avoid all clearing of native vegetation within 30 metres of riparian vegetation of any watercourse.

The Delegated Officer determined that the proposed clearing may also increase the risk of weeds and dieback spreading into the adjacent native vegetation, including Department of Biodiversity Conservation and Attractions managed land. A weed and dieback management condition has been applied to mitigate this risk.

In determining to grant a clearing permit subject to the conditions as above, the Delegated Officer found that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

## 2. Site Information

### Clearing Description

This amendment application is for extending the duration of the permit by ten years and to amend a permit condition to allow clearing after February 2018, of up to 38 hectares of native vegetation within Lot 10920 on Deposited Plan 203844 and Lot 141 on Deposited Plan 411837, Smith Brook, for the purpose of silvicultural practices.

Given the original assessment of the current permit was undertaken in 2012, a reassessment has been undertaken to determine whether the assessment against the clearing principles outlined in the Decision Report prepared for Clearing Permit CPS 5377/1 has changed.

**Vegetation Description**

The vegetation within the application area is mapped within the following South West vegetation complexes:

- Crowea complex, described as tall open forest of *Corymbia calophylla* with mixture of *Eucalyptus marginata* subsp. *marginata* and *Eucalyptus diversicolor* on uplands in hyperhumid and perhumid zones (Mattiske and Havel, 1998);
- Lefroy complex, described as tall open forest of *Eucalyptus diversicolor*-*Corymbia calophylla* on slopes and low woodland of *Agonis juniperina*-*Callistachys lanceolata* on lower slopes in hyperhumid and perhumid zones (Mattiske and Havel, 1998); and
- Wheatley complex, described as tall open forest of *Eucalyptus diversicolor*-*Corymbia calophylla* on slopes and tall open forest of *Eucalyptus patens* on valley floor in perhumid and humid zones (Mattiske and Havel, 1998).

A site inspection conducted by the Department of Water and Environmental Regulation (DWER) indicates that the vegetation within the application area consists predominantly of tall open forest of *Eucalyptus diversicolor* (karri) trees (DWER, 2020b). In much of the application area (most of Zones 2, 4 and 5 in Figure 2), mid-storey species are almost completely absent and understorey species are sparsely distributed throughout the application area. Where present, mid-storey species include *Agonis flexuosa* (peppermint) trees and *Acacia pentadenia*, while understorey is predominantly *Pteridium esculentum* (bracken fern) with some introduced weeds throughout the application areas (DWER, 2020b).

**Vegetation Condition**

The vegetation within the application area is considered to be range from Very Good to Degraded (Keighery, 1994) condition, defined as:

- Very Good: Vegetation structure altered, obvious signs of disturbance (Keighery, 1994);
- Good: Vegetation structure significantly altered with obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate (Keighery, 1994); and
- Degraded: Basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994).

The vegetation condition of the application area was determined through a site inspection undertaken by DWER officers (DWER 2020b). The vegetation within most of Zone 1 in Figure 2 is considered to be in Very Good (Keighery, 1994) condition, while Zone 5 and most of Zone 4 and Zone 2 are considered to be in Degraded (Keighery, 1994) condition. The remainder of the application area is in Good (Keighery, 1994) condition.

It is noted that the assessment of Clearing Permit CPS 5377/1 determined vegetation condition to be in Excellent to Very Good (Keighery, 1994) condition, indicating a change in vegetation quality between 2012 and 2020. During DWER's site inspection, the applicant noted that fuel reduction burning for fire hazard reduction under a Regulation 5 exemptions from the requirement of a clearing permit may have been undertaken on the property and may be required going forward (DWER, 2020b). It is considered that burning for fuel reduction may explain the difference in vegetation quality between 2012 and 2020.

**Soil Type:**

The soil type within the application area is mapped within the following systems:

- Lefroy Subsystem (Pimelia) (254PvLF), described as valleys 40 to 60 m deep. Slopes smooth, 10 to 20 deg. Narrow terrace. Red gradational soils, not calcareous with some red and brown duplex profiles, occupying approximately 45 per cent of the application area;
- Wheatley subsystem (Pimelia) (254PvWH), described as shallow (20-40 m) minor valleys with low sideslopes (5-20%) and narrow swampy floors with a slightly incise stream channel. Soils are loamy gravels, sandy gravels and loamy earths, occupying approximately 25 per cent of the application area;
- Crowea (Pimelia), yellow duplex Phase (254PvCRy), described as gravelly yellow duplex soils; jarrah-marri forest, occupying approximately 15 per cent of the application area; and
- Crowea (Pimelia), brown duplex Phase (254PvCRb), described as brown gravelly duplex soils and red earths; karri-marri forest, occupying approximately 15 per cent of the application area (DPIRD, 2017).

A site inspection conducted by the Department of Water and Environmental Regulation (DWER) indicates that the soil type within the application area is light brown, gravelly sandy soil (DWER, 2020b).

**Local Area:**

The local area referred to in the assessment of this application is defined as a 10 kilometre (km) radius measured from the perimeter of the application area.

#### Site Map:

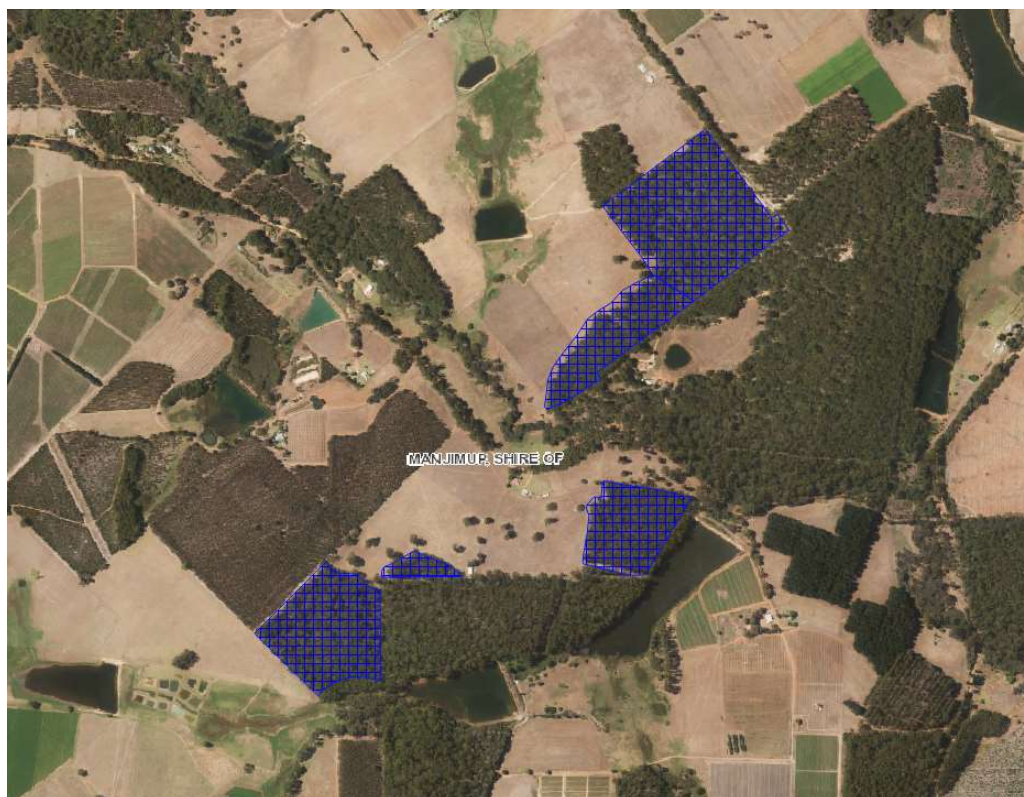


Figure 1. Application area (outlined in blue).

### 3. Assessment of application against clearing principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

##### Proposed clearing may be at variance with this principle

A review of available databases determined that a total of three priority flora have been recorded within the local area, comprising one Priority 2 (P2) flora, one Priority 3 (P3) flora, and one Priority 4 (P4) flora, (Western Australian Herbarium, 1998-). None of these records occur within the application area. Based on the habitat preferences of these species, including soil type and vegetation association, the application area may contain suitable habitat for one priority species; *Xanthoparmelia xanthomelanoides*, a foliose lichen, typically associated with exposed rock and stones on the ground layer in *Eucalyptus* woodland or scrub dominated by *Acacia* sp., with grey-brown clay soils (Western Australian Herbarium, 1998-). A site inspection undertaken by DWER officers found that, with the exception of Zone 1 (Figure 2), majority of the application area is in Good to Degraded (Keighery, 1994) condition, with sparse to completely absent mid- and understorey species, and is predominantly regrowth from previous thinning activities (DWER, 2020b). Further, the site inspection observed no areas of exposed stone that may be suitable for *Xanthoparmelia xanthomelanoides*, indicating that application area is not likely to contain significant habitat for this species (DWER, 2020b).

As assessed under Principle (c), there are no records of threatened flora within the local area and the application area is not considered to contain suitable habitat for any threatened flora species.

Noting the above and that the purpose of this application relates only to thinning activities, the application area is not likely to comprise suitable habitat for threatened or priority flora and is not likely to comprise a high level of floristic diversity.

According to available databases, there are no mapped state-listed threatened ecological communities (TECs) within the local area, as discussed under Principle (d). One state-listed priority ecological community (PEC), Epiphytic Cryptograms of the karri forest, is mapped approximately 10 kilometers west of the application area. Noting the distance and separation from TECs and PECs within the local area, the application area is not likely to comprise whole or part of, or be necessary for the maintenance of a TEC or PEC.

A mapped South West Region Ecological Linkage (Molloy et al., 2009) occurs along the southern edge of zone 5 (figure 2) of the application area and appears to be associated with the continuous vegetation along the tributary of Smith Brook. The proposed clearing is not likely to sever connectivity between larger remnants of suitable habitat in the local area. Given that the purpose of this application relates only to thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area, and some mature trees will be retained, the application area is not likely to be significant as an ecological linkage and the proposed clearing is not likely to significantly impact vegetation connectivity within the landscape.



As assessed under Principle (b), the application area may contain suitable habitat for five threatened fauna species; *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), *Calyptorhynchus baudinii* (Baudin's cockatoo), *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Phascogale tapoatafa wambenger* (south-western brush-tailed phascogale) and *Pseudocheirus occidentalis* (western ringtail possum). Given the application area includes potential breeding trees and suitable foraging habitat, the application area may provide significant habitat for Baudin's cockatoo, Carnaby's cockatoo and the forest red-tailed black cockatoo. As discussed above and under Principle (b), the application area is also not likely to be significant as an ecological linkage for fauna moving through the landscape.

The application area is considered to comprise a high level of biodiversity as it is likely to support significant habitat for threatened fauna species. The proposed clearing may be at variance with this principle.

**(b) 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.**

**Proposed clearing may be at variance with this principle**

A total of 16 threatened or priority fauna species have been recorded within the local area, including 12 threatened fauna, four priority fauna, and one other specially protected fauna species (DBCAs, 2007-). None of these records occur within the application area. Based on the existing records, habitat preferences and habitat requirements of the above species, the application area may contain suitable habitat for five of the above threatened fauna species; Baudin's cockatoo, Carnaby's cockatoo, forest red-tailed black cockatoo, south-western brush-tailed phascogale and western ringtail possum.

Black cockatoo species

Collectively known as black cockatoo species, the forest red-tailed black-cockatoo (listed as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*, EPBC Act), Baudin's cockatoo and Carnaby's cockatoo (both listed as endangered under the EPBC Act) are known to nest in hollows of live or dead trees, including marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*), karri, wandoo (*Eucalyptus wandoo*), tuart, salmon gum, flooded gum, York gum, bullich and blackbutt (Commonwealth of Australia, 2012). Breeding habitat for black cockatoos includes trees of these species that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (Commonwealth of Australia, 2012). Suitable DBH for nest hollows is 500 millimetres for most tree species (Commonwealth of Australia, 2012). While breeding, black cockatoos also generally forage within a 6 to 12 km radius of their nesting site (Commonwealth of Australia, 2012). According to available datasets, mapped potential black cockatoo feeding habitat is recorded within 12 kilometres of the application area, making it a suitable location for breeding if appropriate hollows are present. The application area is also mapped within the known or predicted breeding and occurrence range for all three black cockatoo species (Commonwealth of Australia, 2012).

A site inspection undertaken by DWER officers identified that the application area consists predominantly of a tall open forest of karri trees with occasional marri trees, within which several trees of DBH greater than 500 millimetres were noted (DWER, 2020b). Due to the height of these trees, it could not be determined from the ground whether suitable breeding hollows were present within the application area (DWER, 2020b). A subsequent black cockatoo habitat tree assessment was undertaken by Greg Harewood on 17 and 23 August 2020 (Harewood, 2020). This survey identified eight trees within the application area that contained one or more hollows, potentially suitable for use by black cockatoo species (Harewood, 2020). Detailed descriptions and photographs of the potential breeding trees are included in Section 4. Upon closer inspection through the use of a drone, five of the eight trees were found to be unsuitable for use by black cockatoo species, given the internal dimensions of the hollow were too shallow (Harewood, 2020). However, two of the trees contained a suitable-sized chimney-style hollow and one tree contained a large side-entry hollow, which were considered to be suitable for use as breeding habitat by black cockatoo species (Harewood, 2020). The three suitable breeding hollows identified exhibited no conclusive evidence of use by black cockatoo species, and no evidence of black cockatoo nesting activity was observed in any tree within the application area (Harewood, 2020).

Given the application area contains suitable breeding hollows for black cockatoo species, the application area is considered to comprise significant habitat for these species. However, noting that the purpose of this application relates only to thinning activities, a permit condition requiring the retention of all three suitable breeding trees for black cockatoo species has been applied. Given all suitable breeding trees will be retained, the proposed clearing is not considered likely to impact the significant breeding habitat for black cockatoo species present within the application area.

Black cockatoo species are noted to forage on a range of plant species, predominantly the seeds and flowers of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and proteaceous species (e.g. *Banksia* spp., *Hakea* spp. and *Grevillea* spp.) (Commonwealth of Australia, 2012). In the absence of these species, black cockatoos have also been observed to forage on the seeds of various *Eucalyptus* spp. (Commonwealth of Australia, 2012). As the application area consists predominantly of karri trees and is mapped within 12 kilometres of known breeding sites, the application area may provide suitable foraging habitat for black cockatoo species. However, while karri is a known foraging plant for black cockatoo species, it is not considered a preferred species (Commonwealth of Australia, 2012). As discussed under Principle (e), remnant vegetation is also abundant in the local area and is likely to comprise similar or better quality foraging habitat for black cockatoo species, with majority of these remnants occurring within Department of Biodiversity Conservation and Attractions (DBCAs) managed estate. Further, the DWER site inspection and subsequent black cockatoo habitat tree assessment identified no evidence of foraging by black cockatoo species or any other fauna species (DWER, 2020b; Harewood, 2020). Noting the above, that the purpose of this application relates only to thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area, and that some mature trees will be retained, the application area is not likely to comprise significant foraging habitat for black cockatoo species.

#### South-western brush-tailed phascogale

The south-western brush-tailed phascogale is an arboreal dasyurid, associated with dry sclerophyll forests and open woodlands that contain hollow-bearing trees, characterised by high canopy cover and connectivity (DEC, 2012). Given that the application area comprises predominantly karri and may include hollow-bearing trees, the application area may provide suitable habitat for the south-western brush-tailed phascogale. However, a site inspection undertaken by DWER officers identified that, with the exception of Zone 1 (Figure 2), the application area is predominantly in Good to Degraded (Keighery, 1994) condition with little to no native mid- or understorey species and moderate to sparse canopy cover from previous thinning activities (DWER, 2020b). The DWER site inspection did not record any evidence of use by fauna by way of scats, tracks and tree scratchings (DWER, 2020b).

As discussed under Principle (e), remnant vegetation is also abundant in the local area, majority of which occurs within DBCA managed estate, and is likely to provide larger remnants of suitable habitat for the south-western brush-tailed phascogale. Given the above, that the purpose of this application relates only to thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area, and some mature, hollow-bearing trees will be retained, the application area is not likely to comprise significant habitat for the south-western brush-tailed phascogale.

#### Western ringtail possum

The western ringtail possum is an arboreal foliovore, associated with mature *Corymbia calophylla* (marri) and *Eucalyptus marginata* (jarrah) forests within the Southern Forest management zone surrounding Manjimup, characterised by high canopy cover and connectivity (DPAW, 2017). Within the Southern Forest management zone, suitable habitat also includes riparian vegetation with a canopy of *Eucalyptus rudis* (flooded gum), *Eucalyptus wandoo* (wandoo) forests, and karri forests with appropriate canopy, that provide suitable foraging habitat and tree hollows for breeding and diurnal refuge (DPAW, 2017). Given that the application area comprises predominantly karri and may include hollow-bearing trees, the application area may provide suitable habitat for the western ringtail possum. As mentioned above, a DWER site inspection identified that vegetation within the application area is predominantly in Good to Degraded (Keighery, 1994) condition and canopy cover is moderate to sparse from previous thinning activities. The DWER site inspection also identified no evidence of western ringtail possums or other arboreal fauna within the application area (DWER, 2020b). Further, larger remnants of suitable habitat for western ringtail possums are abundant in the local area, with majority of these remnants occurring within DBCA managed estate. Noting the above, that the purpose of this application relates only to thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area, and some mature hollow-bearing trees will be retained, allowing individuals to disperse into surrounding habitat, the application area is not likely to comprise significant habitat for the western ringtail possum.

As discussed under Principle (a), the application area occurs adjacent to a mapped South West Region Ecological Linkage and is likely to aid in facilitating fauna movement through the landscape. However, the proposed clearing does not sever this linkage or impact connectivity between larger remnants of vegetation within the local area. Further, the purpose of this application relates only to thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area, and some mature trees will be retained. Given the above, the proposed clearing is not likely to significantly impact fauna movement through the landscape.

Given the application area may provide suitable habitat for conservation significant fauna species and includes significant breeding habitat for black cockatoo species that will be retained through permit conditioning, the proposed clearing may be at variance with this principle.

#### **(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, Threatened flora.**

##### **Proposed clearing is not likely to be at variance with this principle**

As discussed under Principle (a), a review of available databases determined that there are no records of any threatened flora species within the application area or the local area. Further, majority of the application area, with the exception of Zone 1 (Figure 2), is in Good to Degraded (Keighery, 1994) condition, with sparse to completely absent mid- and understorey species, and is predominantly regrowth from previous thinning and forest management activities (DWER, 2020b). Noting the above, and that the purpose of this application relates only to thinning activities, the application area is not considered to include, or be necessary for the continued existence of, any threatened flora species.

The proposed clearing is not likely to be at variance with this principle.

#### **(d) 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.**

##### **Proposed clearing is not likely to be at variance with this principle**

As discussed under Principle (a), a review of available databases determined that no state-listed TECs are occur within the local area. The closest TEC, Scott River Ironstone Associated, is mapped approximately 56.3 kilometres west of the application area.

Given the above, application area is not likely to comprise whole or a part of or be necessary for the maintenance of, a state-listed TEC and the proposed clearing is not likely to be at variance with this principle.

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Proposed clearing is not likely to be at variance with this principle**

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 located within the Warren Biogeographic Regionalisation of Australia (IBRA) Bioregion which retains approximately 79.1 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). Noting the current vegetation extent for the Warren IBRA Bioregion, the mapped South West Vegetation Complexes and the local area are all above the 30 per cent threshold and a high proportion of remnant vegetation occurs within DBCA managed estate (Table 1), the local area is not considered to be extensively cleared. Given the above, the application area is not likely to be significant as a remnant of native vegetation in an area that has been extensively cleared.

The proposed clearing is not likely to be at variance with this principle.

**Table 1: Vegetation representation statistics (Government of Western Australia, 2018).**

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current Extent in DBCA Managed Lands	
				(ha)	(%)
IBRA Bioregion					
Warren	833,985.56	659,432.21	79.07	558,485.38	68.36
South West vegetation complex					
Crowea	88,422.17	71,237.96	80.57	67,010.72	75.78
Lefroy	20,125.52	16,460.26	81.79	14,736.69	73.22
Wheatley	31,530.81	23,641.37	74.98	21,264.37	67.44
Local Area					
10 kilometre radius	32 430.39	18 521.23	57.11	-	-

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Proposed clearing is at variance with this principle**

The application area is mapped approximately 65 metres from a non-perennial tributary of Smith Brook, which occurs within the Warren River System. According to available databases, this section of Smith Brook provides a non-perennial minor stream that intersects an approximately 200 metre section of the application area across Zones 4 and 5 (Figure 2). Given the application area includes vegetation surrounding a non-perennial minor stream, the vegetation within the application area is growing in association with a watercourse and the proposed clearing is at variance with this principle.

However, the vegetation in Zones 4 and 5 is predominantly in Good to Degraded (Keighery, 1994) condition, the watercourse in question is a non-perennial minor stream, and the proposed clearing will be conditioned to ensure the exclusion of clearing within 50 metres of riparian areas in accordance with DWER Policy and Guidelines under the *Country Areas Water Supply Act 1947* (the CAWS Act), as discussed under Principle (i). Given the above, the proposed clearing is not anticipated to result in any long-term impact to the ecological values provided by the riparian vegetation communities associated with the watercourse associated with the application area.

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Proposed clearing is not likely to be at variance with this principle**

Four soil types have been mapped within the application area, which are described as:

- Lefroy Subsystem (Pimelia) (254PvLF), described as valleys 40 to 60 m deep. Slopes smooth, 10 to 20 deg. Narrow terrace. Red gradational soils, not calcareous with some red and brown duplex profiles (DPIRD, 2017), occupying approximately 45 per cent of the application area;
- Wheatley Subsystem (Pimelia) (254PvWH), described as shallow (20-40 m) minor valleys with low sideslopes (5-20%) and narrow swampy floors with a slightly incise stream channel. Soils are loamy gravels, sandy gravels and loamy earths (DPIRD, 2017), occupying approximately 25 per cent of the application area;
- Crowea (Pimelia), yellow duplex Phase (254PvCRy), described as gravelly yellow duplex soils; jarrah-marri forest, occupying approximately 15 per cent of the application area; and
- Crowea (Pimelia), brown duplex Phase (254PvCRb), described as brown gravelly duplex soils and red earths; karri-marri forest, occupying approximately 15 per cent of the application area.

As indicated in Table 2, the soil type mapped within the application area presents a low risk of land degradation resulting from water erosion, salinity, flooding, and waterlogging. The application area is mapped at upwards of 50 per cent, moderate to extreme risk for wind erosion, subsurface acidification and phosphorous export. However, the purpose of this application relates only to

thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area, and some mature trees will be retained, which may act as a buffer to reduce the risk of erosion, subsurface acidification and phosphorus export. Noting this and that majority of the application area is in Good to Degraded (Keighery, 1994) condition, the proposed clearing is not considered likely to cause appreciable land degradation.

It is noted that, as the application area has been subject weed invasion, the proposed clearing may facilitate the spread of weeds and dieback to remnant vegetation in the local area. A weed and dieback condition is considered to minimise this risk.

The proposed clearing is not likely to be at variance with this principle.

**Table 2: Land degradation risk levels (DPIRD, 2017).**

<b>Risk categories</b>	<b>Lefroy Subsystem (Pimelia) (254PvLF)</b>	<b>Wheatley Subsystem (Pimelia) (254PvWH)</b>	<b>Crowea (Pimelia), yellow duplex Phase (254PvCRy)</b>	<b>Crowea (Pimelia), brown duplex Phase (254PvCRb)</b>
Wind erosion	10-30% of map unit has a high to extreme wind erosion risk	50-70% of map unit has a high to extreme wind erosion risk	>70% of map unit has a high to extreme wind erosion risk	10-30% of map unit has a high to extreme wind erosion risk
Water erosion	30-50% of map unit has a high to extreme water erosion risk	10-30% of map unit has a high to extreme water erosion risk	3-10% of map unit has a high to extreme water erosion risk	3-10% of map unit has a high to extreme water erosion risk
Salinity	<3% of map unit has a moderate to very high salinity risk or is presently saline	<3% of map unit has a moderate to very high salinity risk or is presently saline	<3% of map unit has a moderate to very high salinity risk or is presently saline	<3% of map unit has a moderate to very high salinity risk or is presently saline
Subsurface Acidification	>70% of map unit has a high subsurface acidification risk or is presently acid	>70% of map unit has a high subsurface acidification risk or is presently acid	>70% of map unit has a high subsurface acidification risk or is presently acid	>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 very high flood risk	<3% of the map unit has a moderate to very high flood risk	<3% of the map unit has a moderate to very high flood risk	<3% of the map unit has a moderate to very high flood risk
Waterlogging	<3% of map unit has a moderate to very high waterlogging risk	<3% of map unit has a moderate to very high waterlogging risk	<3% of map unit has a moderate to very high waterlogging risk	<3% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	50-70% of map unit has a high to extreme phosphorus export risk	50-70% of map unit has a high to extreme phosphorus export risk	10-30% of map unit has a high to extreme phosphorus export risk	10-30% of map unit has a high to extreme phosphorus export risk

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

#### **Proposed clearing may be at variance with this principle**

According to available databases, the application area lies within 2 kilometres of four local conservation areas; Warren State Forest, Tone State Forest, Smith Brook Reserve and Sir James Mitchell National Park. Zones 1 and 2 of the application area (Figure 2) are also adjacent to DBCA managed freehold land. As discussed in Principles (a) and (b), the application area is also adjacent to an ecological linkage that may aid in facilitating the movement of fauna into these local conservation areas.

However, the proposed clearing will not significantly alter vegetation connectivity in the local area or sever connectivity between areas of suitable habitat and local conservation area. Further, given that the purpose of this application relates only to thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area, and some mature trees will be retained, the application area is still likely to act as an ecological linkage for fauna moving through the landscape. Noting the above, the proposed clearing is not likely to impact on dispersal through any adjacent or nearby conservation area.

It is noted that, as the application area has been subject weed invasion, the proposed clearing may impact on the environmental values of local conservation area by facilitating the spread of weeds and dieback, particularly to DBCA managed land adjacent to the application area. A weed and dieback condition is considered to minimise this risk.

Given the proposed clearing may facilitate the spread of weeds and dieback into adjacent conservation area, the proposed clearing may be at variance with this principle.



**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

**Proposed clearing is not likely to be at variance with this principle**

The application area lies within the Warren River and Tributaries, a proclaimed surface water area under the *Rights in Water and Irrigation Act 1914* (the RIWI Act). The application area is also mapped approximately 65 metres from a non-perennial tributary of Smith Brook and intersects a non-perennial minor stream produced by this tributary. The removal of vegetation surrounding a watercourse has the potential to increase sedimentation and turbidity in the watercourse within the application area, thereby possibly impacting surface water quality. However, as the watercourse is a non-perennial minor stream, impacts to surface water will be dependent on the presence of water at the time of clearing. Noting this, that any sedimentation and turbidity within the watercourse resulting from the proposed clearing is likely to be minimal and short-term, that the purpose of this application relates only to thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area, and some mature trees will be retained, the proposed clearing is not likely to cause deterioration in the quality of surface water.

Groundwater salinity within the application area is mapped at 500 to 1000 milligrams per litre total dissolved solids. The application area does not occur within a proclaimed groundwater area. Noting this, that the purpose of this application relates only to thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area, and that majority of the application area is in Good to Degraded (Keighery, 1994) condition, the proposed clearing is not likely to cause deterioration in the quality or underground water.

Given the above, the proposed clearing is not likely to be at variance with this principle.

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Proposed clearing is not likely to be at variance with this principle**

The mean annual rainfall for the local area is 1000 to 1100 millimetres and, as discussed under Principles (f) and (i), the application area is mapped approximately 65 metres from a non-perennial tributary of Smith Brook and intersects a non-perennial minor stream produced by this tributary. However, as discussed under Principle (g), the soil type within the application area is mapped as a low risk of flooding and waterlogging. Further, the watercourse within the environmental area is a non-perennial minor stream that is not likely to be prone to flooding. Noting this, that the purpose of this application relates only to thinning activities, a basal area of 16 metres squared will be retained per hectare within the application area and some mature trees will be retained, and that majority of the application area is in Good to Degraded (Keighery, 1994) condition, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding.

The proposed clearing is not likely to be at variance with this principle.

**Planning instruments and other relevant matters.**

The clearing permit application was advertised on the Department of Water and Environmental Regulation's website on 28 January 2020, inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

The Shire of Manjimup (the Shire) advised that there were no planning or other matters that would affect the proposed clearing, as the land is zoned by Local Planning Scheme No. 4 as "Priority Agriculture" and local government planning approval is not required (Shire of Manjimup, 2020). The Shire also advised that they had no objection to the proposed clearing (Shire of Manjimup, 2020).

The application area lies within the Warren River Water Reserve, a proclaimed surface water resource under the *Country Areas Water Supply Act 1947* (the CAWS Act). The Department of Water and Environmental Regulation (DWER)'s water regulatory section advised that the application area does not occur within a Public Drinking Water Source Area and no priority protection has been assigned or is proposed for the area (DWER, 2020a). DWER's water regulatory section advised that three Licenses to Clear under the CAWS Act had been granted in the past for the properties concerned (DWER, 2020a). The application area is mapped within Zone C of the Warren River Water Reserve, a moderate salinity risk area, where DWER's water regulatory section advise timber works be subject to a Forest Management Plan, retention of a basal area of at least 10 metres squared over the area, exclusion of riparian areas and associated buffers, and exclusion of grazing by livestock from the area (DWER, 2020a). DWER's water regulatory section also advised that the removal of isolated paddock trees is allowed, subject to the establishment of an equivalent area salinity mitigation offset at a rate of 2:1, in the same or higher salinity risk zone (DWER, 2020a). DWER's water regulatory section advised that the Forest Management Plan (Bradshaw, 2006) submitted by the applicant appeared to conform to the above requirements (DWER, 2020a). The proposed clearing is likely to be consistent with DWER Policy and Guidelines under the CAWS Act and is unlikely to result in significant impacts to the Warren River Water Reserve.

Lot details have been updated for Lot 10914 on Deposited Plan 203844, Smith Brook since the granting of CPS 5377/2. This property is now Lot 141 on Deposited Plan 411837.

There are no Aboriginal Sites of Significance mapped within the application area.

#### 4. Biological survey information excerpts and photographs of the vegetation

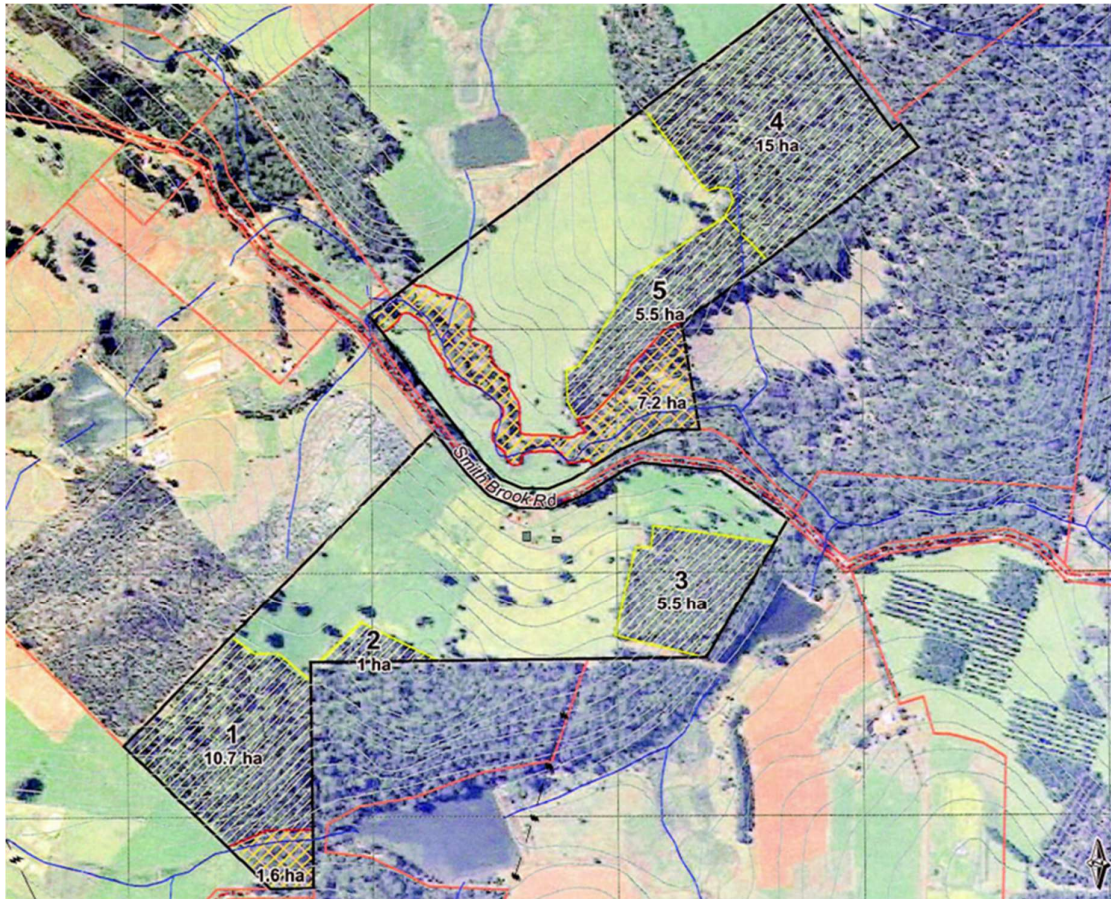


Figure 2. Application area (outlined in yellow) from Forest Management Plan, numbers indicate “Zones” designated to each clearing area (Bradshaw, 2006).











Figure 3. Photographs of the application area (DWER, 2020b).



Figure 4. Potential black cockatoo breeding trees identified within the application area (Harewood, 2020).




WPT	Coordinates (MGA 94/Z50)	425965 mE	6197377 mN	Tree Species	Karri	Survey Date	23/08/2020
10	Comments	Large Karri with possible upward facing chimney style hollow and a large side entry hollow. Upward facing hollow was found to be very shallow/non-existent and unsuitable for black cockatoos to use for nesting purposes (centre picture). Side entry hollow (right picture) appeared to have some depth and therefore it must be considered potentially suitable for black cockatoos to use for nesting purposes. Marks at base of hollow entrance suggests use by fauna of some type.				Classification	Unused Hollow.
<div></div>							

WPT	Coordinates (MGA 94/Z50)	426124 mE	6197532 mN	Tree Species	Karri	Survey Date	23/08/2020
11	Comments	Large Karri with possible upward facing chimney style hollow. Upon closer inspection with a drone, the hollow was found to be very shallow/non-existent and unsuitable for black cockatoos to use for nesting purposes. No signs of use by any fauna.				Classification	Unsuitable Hollow
<div>A tall, slender Karri tree with a light-colored, textured bark stands prominently in a forest. The tree is surrounded by other trees and dense foliage, with a white car visible in the lower-left corner.</div> <div>A close-up view of a hollow in a Karri tree trunk. The hollow is dark and irregularly shaped, surrounded by dense, green and yellowish foliage. The tree's bark is dark and textured.</div>							

WPT	Coordinates (MGA 94/Z50)	426083 mE	6197612 mN	Tree Species	Karri	Survey Date	23/08/2020
12	Comments	Large Karri with upward facing chimney style hollow. Drone pictures indicate the hollow has a large entrance with some depth and therefore it must be considered potentially suitable for black cockatoos to use for nesting purposes. No conclusive evidence of use observed.				Classification	Unused Hollow
<div></div>							



WPT	Coordinates (MGA 94/Z50)	426162 mE	6197557 mN	Tree Species	Karri	Survey Date	23/08/2020
13	Comments	Large Karri with possible upward facing chimney style hollow. Upon closer inspection with a drone, the hollow was found to be very shallow/non-existent and unsuitable for black cockatoos to use for nesting purposes. No signs of use by any fauna.				Classification	Unsuitable Hollow
<div></div>							

WPT	Coordinates (MGA 94/Z50)	426295 mE	6197718 mN	Tree Species	Karri	Survey Date	23/08/2020
14	Comments	Large Karri with possible upward facing chimney style hollow. Upon closer inspection with a drone, the hollow was found to be very shallow/non-existent and unsuitable for black cockatoos to use for nesting purposes. No signs of use by any fauna.				Classification	Unsuitable Hollow






WPT	Coordinates (MGA 94/Z50)	426171 mE	6197997 mN	Tree Species	Karri	Survey Date	23/08/2020
15	Comments	Large Karri with upward facing chimney style hollow. Drone pictures indicate the hollow has a large entrance with some depth and therefore it must be considered potentially suitable for black cockatoos to use for nesting purposes. No conclusive evidence of use observed.				Classification	Unused Hollow
<div></div> <div></div> <div></div>							



WPT	Coordinates (MGA 94/Z50)	426162 mE	6197976 mN	Tree Species	Karri	Survey Date	23/08/2020
16	Comments	Large Karri with possible upward facing chimney style hollow. Upon closer inspection with a drone, the hollow was found to be very shallow/non-existent and unsuitable for black cockatoos to use for nesting purposes. No signs of use by any fauna.				Classification	Unsuitable Hollow



WPT	Coordinates (MGA 94/Z50)	426227 mE	6197889 mN	Tree Species	Karri	Survey Date	23/08/2020
17	Comments	Large Karri with possible upward facing chimney style hollow. Upon closer inspection with a drone, the hollow was found to be very shallow/non-existent and unsuitable for black cockatoos to use for nesting purposes. No signs of use by any fauna.				Classification	Unsuitable Hollow
<div></div>							

Figure 5. Detailed descriptions of potential black cockatoo breeding trees identified within the application area (Harewood, 2020).

## 5. References

- Bradshaw, F.J. (2006) Native Forest Management Plan, Sylvia Marsh. February 2006. DWER Ref: A569625.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Commonwealth of Australia (2012) EPBC Act Referral guidelines for three threatened black cockatoo species: Carnaby's cockatoo, Baudin's cockatoo and Forest red-tailed black cockatoo. Commonwealth of Australia
- Department of Biodiversity, Conservation and Attractions (DBCA) (2007- ) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/> (accessed March 2020).
- Department of Environment and Conservation (DEC) (2012) Fauna profiles: Brush-tailed phascogale, *Phascogale tapoatafa*. Department of Environment and Conservation, Western Australia.
- Department of Parks and Wildlife (DPAW) (2017) Western Ringtail Possum (*Pseudocheirus occidentalis*) Recovery Plan. Wildlife Management Program No. 58. Department of Parks and Wildlife, Perth, WA.
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- Department of Water and Environmental Regulation (DWER) (2020a) *Country Areas Water Supply Act 1947* (CAWS Act) advice and comments regarding clearing permit application CPS 5377/3. DWER Ref: A1889675.

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Harewood, G. (2020) Black Cockatoo Habitat Tree Assessment, CPS 5377/3, Lots 10914 and 10920, Smith Brook. Prepared August 2020 on behalf of Mr Peter John Marsh. DWER Ref: A1931276.

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Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) South West Regional Ecological Linkages Technical Report, Western Australian Local Government Association and Department of Environment and Conservation, Perth.

Shire of Manjimup (2020) Comments regarding clearing permit application CPS 5377/3. DWER Ref: A1862918.

Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. Available from: <http://florabase.dpaw.wa.gov.au/> (accessed February 2020).

## 5. GIS Datasets

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

- Aboriginal Heritage Places (DPLH-001)
- Bush Forever Areas 2000 (DPLH-019)
- Cadastre Address (LGATE-002)
- CAWSA Part 2A Clearing Control Catchments (DWER-004)
- Consanguineous Wetlands Suites (DBCA-020)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- DBCA Statewide Vegetation Statistics
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography Linear (Hierarchy) (DWER-031)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Vegetation Extent (DPIRD-005)
- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Regional Parks (DBCA-026)
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Rivers (DWER-036)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil and Landscape Mapping – Best Available
- Soil Landscape Land Quality datasets
- Vegetation Complexes – South West forest region of Western Australia (DBCA-047)

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