



## CLEARING PERMIT

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

### PERMIT DETAILS

Area Permit Number: CPS 9631/1  
File Number: DWERVT9695  
Duration of Permit: From 26 October 2023 to 26 October 2025

### PERMIT HOLDER

Rebecca Louise Drake

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 3 on Diagram 15636, Middlesex

### AUTHORISED ACTIVITY

The permit holder must not clear more than 8.66 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

### CONDITIONS

#### 1. Clearing authorized (purpose)

The permit holder is only authorized to clear *native vegetation* for the following purposes:

- (a) construction of a dam; and
- (b) for access to allow for *weed* control.

#### 2. 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.

#### 3. 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.

**4. Vegetation management – clearing not authorized**

- (a) The permit holder must not clear standing trees that have a diameter (measured at 150 centimetres from the base of the tree) of 50 centimetres or greater within the area cross-hatched yellow in Figure 1 of Schedule 1.
- (b) The permit holder must not clear *Agonis flexuosa* trees within the area cross-hatched yellow in Figure 1 of Schedule 1, except for the purpose of dam construction.

**5. Directional clearing**

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

**6. Fauna management – South-western brush-tailed phascogale, Quenda, Western Ringtail Possums and Quokka**

- (a) 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 immediately prior to, and for the duration of clearing activities, for the presence of south-western brush-tailed phascogale (*Phascogale tapoatafa wambenger*), Quenda (*Isoodon fusciventer*), Western Ringtail Possums (*Pseudocheirus occidentalis*) and Quokka (*Setonix brachyurus*).
- (b) Clearing activities must cease in any area where fauna referred to in condition 6(a) are identified until either:
  - (i) the individual has moved on from that area; or
  - (ii) the individual has been removed by the *fauna specialist*.
- (c) Any individual(s) removed in accordance with condition 6(b)(ii) must be relocated by a *fauna specialist* to a *suitable habitat*.
- (d) Where fauna is identified under condition 6(a), 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 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  - (iv) the number of individuals removed and relocated;

- (v) the relevant qualifications of the *fauna specialist* undertaking removal and relocation;
- (vi) the date each individual was removed;
- (vii) the method of removal;
- (viii) the date each individual was relocated;
- (ix) the location where each individual was relocated to, recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
- (x) details pertaining to the circumstances of any death of, or injury sustained by, an individual.

**7. Erosion/waterlogging management**

- (a) The permit holder must only perform the operation of machinery used to undertake activities authorised under this permit during *dry conditions*.
- (b) The permit holder must commence the construction of the dam no later than three (3) months after undertaking the authorised clearing activities.
- (c) Where practicable, the permit holder shall avoid clearing *riparian vegetation*.

**8. Records that must be kept**

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

**Table 1: Records that must be kept**

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none"> <li>(a) the species composition, structure, and density of the cleared area;</li> <li>(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings;</li> <li>(c) the date that the area was cleared;</li> <li>(d) the size of the area cleared (in hectares);</li> <li>(e) the direction of the clearing undertaken;</li> <li>(f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2;</li> <li>(g) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 3; and</li> <li>(h) actions taken to manage and mitigate impacts to south-western brush-tailed</li> </ul>

No.	Relevant matter	Specifications
		phascogale, Quenda, Western Ringtail possums and Quokka in accordance with condition 6.
2.	In relation to erosion/waterlogging management	(a) Erosion and waterlogging management measures undertaken in accordance with condition 7.

## 9. Reporting

The permit holder must provide to the *CEO* the records required under condition 8 of this permit when requested by the *CEO*.

## DEFINITIONS

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


**Table 2: Definitions**

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dry conditions	means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches.
fauna specialist	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 <i>CEO</i> as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the <i>Biodiversity Conservation Act 2016</i> .
fill	means material used to increase the ground level, or to fill a depression.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
suitable habitat (south-western brush-tailed phascogale)	means habitat known to support south-western brush-tailed phascogale within the known current distribution of the species. This often includes dry sclerophyll forests and open woodlands, with hollow-bearing trees (usually eucalypts) and sparse understorey.

Term	Definition
suitable habitat (Quenda)	means habitat known to support Quenda within the known current distribution of the species. This often includes forest, woodland and heathland, usually with dense understorey vegetation
Suitable habitat (Quokka)	means inhabit eucalypt forests and riparian habitats with sedge-dominated understorey; usually associated with vegetation that has high rainfall, complex vegetation structure and burn patchiness. In the South Forest, Quokka is associated with eucalypt forest and riparian vegetation
suitable habitat (western ringtail possum)	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> ) dominated woodlands, and other stands of myrtaceous trees growing near swamps, watercourses or floodplains.
riparian vegetation	has the meaning given to it in Regulation 3 of the <i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i> .
watercourse	has the meaning given to it in section 3 of the <i>Rights in Water and Irrigation Act 1914</i> .
weeds	means any plant – <ul style="list-style-type: none"> <li>(a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; or</li> <li>(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or</li> <li>(c) not indigenous to the area concerned.</li> </ul>

---

## END OF CONDITIONS



\_\_\_\_\_  
Jessica Burton  
A/MANAGER  
NATIVE VEGETATION REGULATION

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

3 October 2023

# SCHEDULE 1

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



**Figure 1: Map of the boundary of the area within which clearing may occur and that is subject to conditions.**



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

Permit number:	CPS 9631/1
Permit type:	Area permit
Applicant name:	Rebecca Drake
Application received:	23 February 2022
Application area:	8.66 hectares
Purpose of clearing:	Construction of a dam and allow for weed control access
Method of clearing:	Mechanical clearing
Property:	Lot 3 on Diagram 15636, Middlesex
Location (LGA area/s):	Shire of Manjimup
Localities (suburb/s):	Middlesex

### 1.2. Description of clearing activities

The vegetation proposed to be cleared is limited to selective trees and shrubs within the application area. The applicant has informed the Department of Water and Environmental Regulations (DWER) that upperstorey vegetation would be predominately retained with the undergrowth proposed to be cleared. During the ongoing correspondence with the applicant, the department was advised that the intention of the clearing is to remove selected vegetation to allow access for weed control within the application area as the property is currently overrun with weeds and blackberries. This was evident during a site inspection undertaken by the DWER officers of the application area (DWER, 2022). The applicant advised that a steep section in the centre of the application area will not be cleared to ensure that a stable slope is maintained and soil erosion is avoided. The removal of this area reduced the size of the application area from 10 hectares to 8.66 hectares.

The proposal further includes clearing of native vegetation along the watercourse on the property for the purpose of constructing a dam. The application area is contained within a single area (see Figure 1, Section 1.5).

### 1.3. Decision on application

Decision:	Granted
Decision date:	3 October 2023
Decision area:	8.66 hectares of native vegetation, as depicted in Section 1.5, below.

### 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and three submissions were received. Consideration of matters raised in the public submissions are summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix G.1), a site inspection (see Appendix F) undertaken by DWER and the Department of Primary Industries and Regional Development (DPIRD), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration that the proposed clearing is to selectively clear understory vegetation for the purpose of removing weeds on the property. It is considered that given the vegetation within the application area comprises of large trees, with the conditions imposed on the clearing permit, much of the native vegetation would be retained within the application area.

The assessment identified that the proposed clearing:

- has the potential to introduce and spread weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- has the potential for land degradation in the form of waterlogging, phosphorus export and potential surface waterflow;
- will include the removal of riparian vegetation for the construction of the dam;
- is unlikely to result in significant impact to conservation significant fauna species, including black cockatoos, south-western brush-tailed phascogale, quenda, western ringtail possums and quokka individuals and their habitats.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation, have long-term adverse impacts on environmental values and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values. The 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;
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- retain standing trees that have a diameter (measured at 150cm from the base of the tree) of 50 centimetres or greater, within the application area;
- engage a fauna specialist to identify any south-western brush-tailed phascogale, quenda, western ringtail possums and quokka within the application area prior to and for the duration of the clearing;
- retain *Agonis flexuosa* trees along the watercourse except, for the purpose of the dam construction;
- the clearing must be undertaken during dry conditions;
- development of the dam must occur within three months of clearing;



1.5. Site maps



Figure 1 Map of the application area

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

## 2 Legislative context

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

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

- the precautionary principle
- the principle of intergenerational equity
- the 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)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Soil and Land Conservation Act 1945* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

The applicant submitted the original application for clearing native vegetation for the purpose of dam construction and bush thinning to allow for grazing within the application area. Following the ongoing discussion with the applicant during the assessment of the application, the purpose of the clearing was amended by the applicant to replace bush thinning or grazing with clearing for access to manage the invasion of weed within the application area. It is the department's view that the change of purpose would result in less native vegetation cleared within the application area.

The applicant has proposed the following measures to mitigate significant impacts resulting from the proposed clearing.

- Trees with a Diameter Breast Height (DBH) greater than 50 centimetres would be retained throughout the entire property. This would mitigate impact on habitat trees containing hollows suitable for use by black cockatoos, brush tailed phascogale and the western ringtail possums.
- The applicant has agreed to retain vegetation within the steep section of the application area. Hence, this was left out of the approved clearing area footprint.
- *Agonis flexuosa* (peppermint) trees will be retained along the watercourse, except within the location for the construction of the dam.

Following the above, the Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid, minimise and mitigate 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 C) 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 D) identified that the impacts of the proposed clearing present a risk to values (fauna) 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 - Clearing Principles (a) and (c)

#### Assessment

The proposed application area is located within the Warren Interim Biogeographic Regionalisation for Australia (IBRA) region of Western Australia. According to available databases, the broadscale vegetation mapped within the application area is:

- Nornalup vegetation association, which is described as mainly *Eucalyptus diversicolor* (Karri) or Tuart *Eucalyptus gomphocephala* (Tuart) (Shepherd et al, 2001)
- 60 per cent of the application area is mapped within the Pemberton (221) complex, which is described as tall open forest of *Eucalyptus diversicolor* with mixtures of *Corymbia calophylla* on valley slopes and low forest of *Agonis juniperina-Banksia seminuda-Callistachys lanceolata* on valley floors in the perhumid zone (Webb et al, 2016).
- 40 per cent of the application area is mapped within the Crowea (70) complex, which is 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 (Webb et al, 2016).

A site inspection was undertaken by DWER officers on 7 October 2022. It was observed that the application area comprises largely of *Eucalyptus diversicolor* (karri) forest with a midstorey dominated by *Acacia pentadenia* (karri wattle), *Tremandra stelligera* and *Trymalium odoratissimum*. The understorey was relatively sparse with exotic grasses dominant in patches, with other areas lacking understorey growth due to the dense karri leaf and bark litter. *Hibbertia amplexicaulus* and *Pteridium esculentum* (bracken fern) were also identified (DWER, 2022).

The majority of karri trees appears to be regrowth, estimated to be around 30 to 50 years old. Several old growth karri trees remain, many of which are dead. The very heavy leaf and bark litter on the forest floor indicates a long absence of fire (DWER, 2022).

There is a clear vegetation type transition zone from the abovementioned karri forest to riparian vegetation associated with a watercourse that runs through the south-western portion of the site. The property slopes relatively steeply down to the watercourse, which is dominated by invasive blackberry (*Rubus ulmifolius*) and bracken fern (*Pteridium esculentum*) making it incredibly difficult to traverse. The area also contains moderate density small *Agonis flexuosa* with sedges and exotic grasses common in the understorey through the lowest lying portions. Some sprawling blackberry also extends up into the edge of the karri forest just beyond the riparian transition zone (DWER, 2022).

A site inspection was also undertaken by officers from the Department of Primary Industries and Regional Development (DPIRD). The DPIRD officers identified the vegetation within the application area to consist of karri forest (CSLC, 2023b).

The area shows historical signs of disturbance, with weed species present throughout. The vegetation was largely in a good (Keighery, 1994) condition, with degraded (Keighery, 1994) areas occurring around the watercourse with the presence of dense blackberry and exotic grasses (DWER 2022, DPIRD 2023b).

#### Flora

The desktop assessment identified one threatened and six priority flora in the ten-kilometre radius local area. In forming a view on the likelihood of these species occurring within the application area, the preferred habitat types of these species and their recorded proximity to the application area were considered, along with the vegetation/soil types and landforms within the application area.

The application area may contain suitable habitat for three priority flora species recorded from habitats broadly similar to the vegetated areas of the application area, and from soil and/or vegetation types similar to those mapped within the application area. These are considered below.

- *Amanita kalamundae*: The Florabase website (Western Australian Herbarium, 1998-) indicated that this species is known from 24 recorded populations (some records may overlap) in the IBSA subregions of Merredin, Northern Jarrah Forest, Southern Jarrah Forest and Warren (within a 370-kilometre range). This species is described as a species of fungi of white to tan buffer, white lamellae and white bulb. This species is known to be growing in sandy clay to loam soils, associated with Eucalypt woodland and forest including jarrah, karri, flooded gum or marri; may include mid-storey of *Banksia* spp., *Allocasuarina* spp., *Hakea* spp., *Persoonia longifolia*, and *Macrozamia reidleyi* (Western Australian Herbarium, 1998). The nearest record is approximately 5.02 kilometres from the application area. Given the species distribution and the heavy leaf litter and the weed invasion within the application area, the proposed clearing is unlikely to impact on the conservation status of *Amanita kalamundae*.

- *Chamelaucium forrestii*: The Florabase website (Western Australian Herbarium, 1998-) indicated that this species is known from 31 recorded populations (some records may overlap) in the local government areas of Denmark, Manjimup and Plantagenet. This species is described as a shrub approximately 1.5 metres high and one metre wide, flowering all year-round and occurs in black to grey sandy soils and is associated with vegetation on granite outcrops and rocky crevices including *Agonis* spp., *Pimelea imbricata*, *Acacia triptycha*, *Astartea* spp., *Eutaxia obovata*, and *Verticordia plumosa* (Western Australian Herbarium, 1998-). The nearest record is approximately 5.02 kilometres from the application area. The site visit did not identify granite outcrops within the application area and post site visit this species was considered as unlikely to occur within the Application area.
- *Deyeuxia inaequalis*: The Florabase website (Western Australian Herbarium, 1998-) indicated that this species is known from 12 recorded populations (some records may overlap) in the local government areas of Augusta Margaret River, Boyup Brook, Manjimup, Nannup and Waroona. This species is described as an erect, tufted annual, grass-like or herb, 0.75 metres high with green flowers flowering between November to December. *Deyeuxia inaequalis* occurs in brown to black sandy clay and is associated with eucalypt forest including jarrah, marri, and karri over heath of *Xanthorrhoea preissii*, *Acacia* spp., *Bossiaea* spp., *Hibbertia* spp., *Banksia* spp., *Macrozamia riedlei*, *Persoonia longifolia* or *Callistachy lanceolata* (Western Australian Herbarium, 1998-). The preferred habitat for this species is only present within the watercourse area of the application area which covers 1.5 hectares of the 8.66-hectare application area. Noting the invasive grassy weeds, bracken fern and blackberry dominance in the watercourse, this species is identified as not likely to occur post the site visit (DWER, 2022).

### Conclusion

Based on the above assessment, the proposed clearing is not likely to result in significant impact to conservation significant flora species and no conservation significant ecological communities were identified from the local area.

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

### Conditions

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

- avoid and minimise clearing, to minimise the direct impacts to native vegetation.
- weed and dieback management, to minimise the risk of the introduction and spread of weeds and dieback into adjacent vegetation.

### **3.2.2. Biological values (fauna) - Clearing Principles (b)**

#### Assessment

Fourteen threatened, six priority and one 'other specially protected' fauna has been recorded in the local area. In forming a view on the likelihood of these species occurring within the application area, the preferred habitat types and typical home ranges of these species and their recorded proximity to the application area were considered, along with the type and condition (Keighery, 1994) of the vegetation within the application area.

During the site inspection conducted by DWER officers, several small birds of unknown species were seen within the application area. Kangaroo droppings were also observed throughout. There were several burrows (species unknown) at the base of fallen trees (DWER, 2022).

The application area may contain suitable habitat for five threatened, one priority and one conservation dependent fauna species. These are considered below.

#### **Black cockatoos**

*Zanda latirostris* (Carnaby's cockatoo, Endangered), *Zanda Calyptorhynchus* (Baudin's cockatoo, Endangered) and *Calyptorhynchus banksii subsp. naso* (forest red-tailed black cockatoo, Vulnerable) were recorded within the local area. The nearest records are approximately 0.13 kilometres, 0.13 kilometres and 1.61 kilometres from the

application area, respectively. The application area is mapped within the known distribution zone of all three black cockatoo species.

Black cockatoo habitat can be considered in terms of breeding, roosting and foraging habitat. The three black cockatoo species are known to nest in hollows of live and dead trees, including marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*), karri (*Eucalyptus diversicolor*), wandoo (*Eucalyptus wandoo*), tuart, flooded gum (*Eucalyptus rudis*), and other *Eucalyptus* spp. (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, where suitable DBH for nest hollows is 500 millimetres for most tree species (DAWE, 2022). While breeding, black cockatoos also generally forage within a 6 to 12-kilometre radius of their nesting site (DAWE, 2022). According to available datasets, mapped black cockatoo foraging habitat is recorded within a 12-kilometre radius of the application area, making it a suitable location for breeding if appropriate hollows are present (DAWE, 2022). According to available databases, the closest confirmed (natural) breeding site is approximately 23 kilometres southeast of the application area.

During the site inspection conducted by DWER officers (DWER, 2022), several trees with suitably sized breeding hollows for black cockatoos were identified across the application area. A number of these hollows contained bee nests. Several other trees had the potential to contain suitably sized hollows however, presence could not be determined from ground level (DWER, 2022). Considering this, the application area may contain breeding habitat for black cockatoos. However, approximately 85 per cent of the application area is for clearing to allow access for weed control, that would not result in any large trees being cleared. The applicant has committed to retaining any tree that have a diameter (measured at 150cm from the base of the tree) of 50 centimetres or greater within the application area. As a result of this commitment, no potential black cockatoo breeding trees would be lost through the proposed clearing.

According to the available databases, there are two roost sites mapped within the 12 kilometres radius of the application area. The trees within the application area are tall, located within two kilometres of a watercourse with foraging habitat likely to be present within the 20 kilometres of the application area. Based on the referral guideline any tall tree may provide roosting habitat for the three black cockatoos (DAWE, 2022). Therefore, it is likely that the application area may provide roosting habitat for the black cockatoos. However, as mentioned above, the clearing will not include any large, tall trees. Therefore, there is unlikely to be any significant impact to potential black cockatoo roosting habitat as a result of the clearing.

The canopy layer of the application area consists of *Eucalyptus diversicolor* (Karri) trees throughout the entire application area and no other suitable foraging habitat for black cockatoo species were identified by the DWER officers (DWER, 2022), as such no impact to foraging habitat are expected from the proposed clearing. Karri is not considered to be a preferred food resource by black cockatoos (DEC, 2008; Valentine and Stock, 2008) and is likely to be used primarily when other foraging sources are not available.

The application area was not considered to comprise of primary foraging habitat for the black cockatoo species. It is further noted that the jarrah forest is located approximately 700 metres east of the application area which consists mainly of *Eucalyptus marginata* (Jarrah), *Corymbia calophylla* (Marri) species that are known to be primary foraging habitat for black cockatoos. Based on the above and the extent and the nature of the clearing (selective clearing), it is considered unlikely that the proposed clearing would significantly impact the availability of black cockatoo foraging habitat.

### **Chuditch**

The *Dasyurus geoffroii* (chuditch/western quoll) is listed as vulnerable under both BC Act and the EPBC Act. Chuditch are now only present in approximately five per cent of their pre-European range. Most chuditch are now found in varying densities throughout the jarrah forest and south coast of Western Australia. Chuditch use a range of habitats including forest, mallee shrublands, woodland and desert. The densest populations have been found in riparian jarrah forest (DEC, 2012a). Noting the location of the application area the vegetation within the application area, the proposed clearing is not likely to significantly impact on chuditch habitat.

### **Quenda**

The *Isoodon fusciventer* (Quenda) is listed as priority four (4) and are known to Inhabits Forest, woodland and heathland, usually with dense understorey vegetation, sometime wetland fringes. Quenda area known to forage on plant material, fungi and insects by digging in leaf litter and soil. Quenda habitat is usually on sandy combination soils (Atlas of Living Australia, n.d). Based on this species habitat description, it is not likely that the application area comprises of significant habitat for Quenda. However, Quenda maybe a transient visitor to the application area.

Conditions imposed on the permit would mitigate any potential indirect impacts to this species if present during the time of clearing.

### **Western Ringtail Possum**

The *Pseudocheirus occidentalis* (Western Ringtail Possum (WRP)) is listed as Critically Endangered under the BC Act, as well as the EPBC Act. According to the WRP recovery plan (DPaW, 2017), habitat critical to survival for WRP is not well understood and is therefore, based on the habitat variables observed where WRP are most commonly recorded. These appear to vary between key management zones. The common findings however are high nutrient foliage, availability for food, suitable structure for protection/nesting and canopy continuity to avoid/escape predation and other threats. Current distribution of WRP in the south-west of Western Australia is limited to three management zones and within the Southern Forest zone, WRP typically occupy within the jarrah forests near Manjimup where peppermint is generally absent (DPaw, 2017). WRP resting sites include constructed dreys and tree hollows, with dreys constructed in the canopy when hollows are not available (Jones et al, 1994). During the DWER site inspection, no dreys were identified within the application area (DWER, 2022).

The assessment notes that the vegetation within the application area is predominately karri forest in a degraded (Keighery, 1994) condition and WRP are noted to occupy jarrah forest within the Manjimup locality. The vegetation mapped in the surrounding state forest is mainly jarrah and marri which is known to be the preferred vegetation type by the WRP within this region. However, given the presence of *Agonis flexuosa* (peppermint) along the watercourse, the likelihood of the WRP utilising the application area cannot be ruled out. The karri trees within the application area are also likely to contain hollows that WRP may utilise for refuge. Hence, it is important that a fauna specialist is present on site during the clearing activities to ensure that no individuals are impacted from the proposed clearing. The applicant has committed to retaining the peppermint trees along the watercourse (except for the area that requires clearing for the dam construction). Conditions placed on the permit (see below) will mitigate impacts to any WRP that may be present during the time of clearing, within the application area.

### **Brush-tailed phascogale**

The *Phascogale tapoatafa wambenger* (south-western brush-tailed phascogale, wambenger) is a Conservation Dependent species. According to the desktop assessment, this species was recorded from 56 different locations within the local area with the closest record identified is 0.56 kilometres from the application area. The South-western brush-tailed phascogale is known to inhabit dry sclerophyll forests and open woodlands, with hollow-bearing trees (usually eucalypts) and sparse understorey, including karri forest (Bradshaw, 2015). They are opportunistic feeders, foraging on invertebrates, nectar, small birds and small mammals and utilise tree hollows for breeding (DEC, 2012b).

During the DWER site inspection (DWER, 2022), number of trees containing hollows were identified within the application area that may provide suitable habitat for this species. Therefore, it is considered important that a fauna specialist inspect the area prior to and during the proposed clearing to ensure no individuals of south-western brush-tailed phascogale are impacted from the proposed clearing. A habitat tree has the meaning 'a tree that have a diameter measured over bark at 1.3 meters from the base of the tree, of at least 70 centimetres for karri (*Eucalyptus diversicolor*) that contain or have the potential to develop hollows suitable for native fauna. A condition is placed on the permit to retain all trees that has a diameter of 50 centimetres or greater (measured at 150 centimetres from the base of the tree). It is not considered likely that trees less than 50 DBH in size would provide large enough hollows for the use by the brush tailed phascogale. Therefore, any trees that may provide suitable hollows for the brush-tailed phascogale is likely to be retained on site.

### **Quokka**

Quokka most commonly inhabit jarrah, marri and karri forests or riparian habitats with sedge understorey in the southwest of Western Australia, with a known range that encompassed the application area. The quokka has relatively high water requirements, which suggest that Quokka is found close proximity to riparian and swamp habitat (DEC, 2013). Given the vegetation type and the presence of a watercourse within the application area, it is possible that quokka may utilise the application area. Conditions placed on the permit will mitigate impacts to any quokka that may be present within the application area.

### **Ecological linkage**

Based on the mapping available to the DWER at the time of the assessment, the southwest regional ecological linkage is mapped approximately 1.23 kilometres to the north and south of the application area. Based on the aerial imagery, the application area is immediately surrounded by highly cleared farmland and does not appear to connect with patches of native vegetation to provide a significant ecological linkage for the movement of fauna. In addition,

based on the nature of the clearing, much of the vegetation would still be retained on site to act as a corridor for wildlife movement across the landscape. Therefore, impact to an ecological linkage/corridor from the proposed clearing is not considered likely.

#### Conclusion

Based on the above assessment, it is considered that the impacts to fauna utilising the application area can be managed by imposing conditions on the clearing permit. Significant residual impacts to fauna species are unlikely to occur as a result of the proposed clearing.

#### Conditions

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

- Slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity to avoid mortality of individuals.
- Engage a fauna specialist to inspect the clearing area immediately prior to, and for the duration of clearing activities, for the presence of south-western brush-tailed phascogale, quenda, quokka and WRP.
- Retain standing trees that have a diameter (measured at 150cm from the base of the tree) of 50 centimetres or greater within the application area.
- Retain the clearing of *Agonis flexuosa* trees along the watercourse (except for the area cleared for the dam construction).

### **3.2.3. Land and water resources - Clearing Principles (g)**

#### Assessment

The soils within the application area have been mapped by the Department of Primary Industries and Regional Development (DPIRD) as two different soil units, being Pemberton subsystem and the Crowea subsystem (DPIRD, 2019).

DPIRD mapping indicate that the 'Pemberton subsystem' soil unit covers the majority of the application area and is described as flat to gently sloping floors with few channels, smooth slopes with red or yellow gradational soils, not calcareous with some red duplex soils. The Crowea subsystem is described as a yellow duplex Phase and as gravelly yellow duplex soils (DPIRD, 2019).

Given the purpose of the clearing, the DWER sought advice from the DPIRD. According to the assessment undertaken by DPIRD, the findings are as followed (CSLC, 2023b):

- Wind erosion - no significant change is expected given the soil type present, location and the intended use of the proposed areas to clear.
- Water erosion – the risk of water erosion causing land degradation is low. Groundcover in the slopes need to be maintained.
- Salinity – the risk of salinity causing land degradation is low. No salinity is occurring on the property.
- Flooding – the likelihood of flooding in this location is low.
- Waterlogging – the risk of waterlogging causing land degradation is high.
- Eutrophication – the risk of eutrophication causing land degradation is high.

Since the risk of water erosion is likely to increase if the groundcover within the steep section of the application area is removed, it was communicated to the applicant that avoiding this area from the proposed clearing area will significantly reduce this risk. Using the topographic contours and the information obtained from the DWER site inspection, the steep section of the application area was removed from the clearing footprint to ensure the groundcover within this area is maintained. It is also noted that all large trees are retained on site. Based on the conditions imposed, the risk of the proposed clearing causing appreciable water erosion is considered to be low.

It is noted that the assessment undertaken by DPIRD determined that the proposed clearing poses a high risk of land degradation in the form of waterlogging and eutrophication (CSLC, 2023a). At the time of the DPIRD assessment, the purpose of the clearing included grazing. However, the applicant no longer propose grazing activities on the property and the proposed clearing will only be limited to selective, low scale clearing to provide access for weed control and dam construction. Given the proposed clearing is restricted to dry conditions, the purpose of the clearing does not include the use of nutrients, and a dam would be constructed on the property, the risk of the proposed clearing leading to appreciable land degradation in the form of increased eutrophication and waterlogging is considered to be low.

### Conclusion

Since the proposed clearing is not broad scale in nature, the commitment by the applicant to retain the larger trees, excluding the steep section of the property from the application area and limiting the clearing to dry months, the risk of appreciable land degradation risks caused by the proposed clearing is considered to be very low.

### Conditions

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

- The permit holder must only perform the operation of machinery used to undertake activities authorised under this permit during dry conditions.
- The permit holder must commence the construction of the dam no later than three months after undertaking the proposed clearing.
- Retain standing trees that have a diameter (measured at 150cm from the base of the tree) of 50 centimetres or greater within the application area.

## **3.2.4. Land and water resources - Clearing Principles (f and i)**

### Assessment

The application area is located within the Warren-Denmark hydrological zone of Western Australia and within the Warren River catchment. A non-perennial, natural watercourse is mapped within the application area. During the site inspection undertaken by the DWER officers, this watercourse was evident on the property (DWER, 2022). Given the proposed clearing is restricted to dry conditions, the standard methodologies implemented for dam construction, and the condition for the permit holder to commence the dam construction no later than three months after undertaking the authorised clearing, it is unlikely the proposed clearing would contribute, or cause appreciable impact to the watercourse.

It is likely that the clearing activities may disturb the soil on the banks and beds of the watercourse. During the site inspection it was noted that, the property slopes relatively steeply down to the watercourse, which is dominated by blackberry (*Rubus ulmifolius*) and bracken fern (*Pteridium esculentum*). The area also contains moderate density small *Agonis flexuosa* with sedges and exotic grasses common in the understorey through the lowest lying portions. Restricting the applicant from undertaking clearing of peppermint trees along the watercourse (except for the area proposed for dam construction) would ensure that vegetation will be retained along majority of the watercourse, reducing the disturbance to the soil. The applicant is subject to obtaining a permit to disturb the bed and banks of the watercourse under the RiWI Act from DWER. The extent of impact to bed and banks of the watercourse would be further considered during the assessment of the bed and banks application.

### Conclusion

Based on the above assessment, the proposed clearing will result in short term impact on quality of the surface water from the potential sedimentation during clearing. However, given the conditions imposed on the permit and the nature of the proposed clearing, the proposed clearing is unlikely to have significant impact on the quality and quantity of water in the watercourse.

The implementation of appropriate, standard dam development methodologies will further ameliorate any potential land degradation in the form of sedimentation.

### Conditions

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

- The permit holder must not clear *Agonis flexuosa* trees except for the purpose of dam construction.

## **3.3. Relevant planning instruments and other matters**

Other relevant authorisations required for the proposed land use include a permit to interfere with bed and banks under the *Rights in Water and Irrigation Act 1914*. The Department's water licence branch advised that a bed and banks permit for the proposed works will be issued to the applicant following the grant of the clearing permit (DWER, 2022c).

Advice was sought from the water licencing team to understand whether a licence for allocation or an exemption is in place. The licencing team advised that (DWER, 2022b):

- "Property is in the Smith Brook resource which is fully allocated – however policy provides an exemption for applications proposing a dam less than 8,000kL if the water will be used for non-commercial purposes and no other water resource options are available (ie. scheme or groundwater)."



- “Dimensions provided in the application suggest the dam’s capacity is likely to be 5,500kL, not 8,000kL as requested.”

The proposed clearing lies within the *Country Areas Water Supply Act 1947* (CAWS Act) gazetted Warren River Water Reserve. Hence, the Departments’ water source protection branch provided advise on the proposed clearing on 17 November 2020 and on the 17 August 2022. The branch advised that this part of the Warren River Water Reserve is not currently a Public Drinking Water Source Area, and no priority source protection has been assigned nor is it proposed. The reserve has however been subject to CAWS Act native vegetation clearing controls since December 1978 to prevent salinisation of water resources. There is no compensation history for the subject land (DWER, 2022d).

The advice further includes that the “Lot 3 is located in Zone C, a medium salinity risk area of the catchment. However, it is noted that there are riparian areas present within the proposed clearing footprint. However, considering the proposed clearing is for a low scale dam construction, the proposal is supported (DWER, 2022d)

The Shire of Manjimup advised DWER that local government approvals are not required, and that the proposed clearing is consistent with the Shire’s Local Planning Scheme. The Shire did not have any objections to the proposed clearing. However, the Shire also mentioned the following (Shire of Manjimup, 2022):

- “it should be noted that the base of the dam wall and any other part of the dam including stored water is to be further than 20 metres from all boundaries.”
- “The Shire notes that the Smith Brook water catchment may over allocated and therefore do not support the clearing for the purposes of a dam unless there is a license for allocation or there is an exemption in place.”

No 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 A. Additional information provided by applicant

Information	Description
Photographs of the application area (Rebecca Drake, 2020b)	The applicant submitted photographs of the application area to the department on 16 March 2022.

## Appendix B. Details of public submissions

The department received three public submissions during the advertisement period. All three submissions raised similar concerns, and these are summarised within the table below (Submission, 2022a), (Submission 2022b), (Submission 2022c).

Summary of comments	Consideration of comment
Potential importance of foraging habitat in the area of the proposed clearing	It is noted that important foraging habitat is present within the local area for all three black cockatoos. However, during the site inspection undertaken by the DWER officers, it was determined the application area did not contain primary foraging habitat for the black cockatoos. this matter is further discussed in section 3.2.2 of the decision report.
<p>“Importance of considering cumulative impacts”</p> <p>“Clearing in the Shire of Manjimup will continue the fragmentation and degradation of the remaining native vegetation”</p>	It is noted that clearing of the entire application area would result in a significant impact to the remaining native vegetation within the local area. However, the proposed clearing includes selective clearing of the vegetation to allow access to control weeds and for the dam construction along the watercourse. Based on the nature of the clearing, it is not considered to significant impact on the extent of the remaining vegetation. The native vegetation remaining within the local area is above the 30 per cent of that present pre-1750 threshold. The approved clearing of 8.66 hectares will reduce the extent of the remaining vegetation by 0.4 per cent and is still considered to be above the 30 per cent threshold. However, given the conditions on the clearing permit, the extent of clearing would be less than the approved 8.66 hectare area.
Importance of retaining existing and future breeding (hollow-bearing) trees	No trees that have a diameter (measured at 150 centimetres from the base of the tree) of 50 centimetres or greater are authorised to be cleared under this permit and the clearing is only permitted to provide access to control weed and for the construction of the dam.
need for mitigation measures that are effective for black cockatoo conservation.	The assessment did not consider that the proposed clearing would result in a significant residual impact to black cockatoo habitat to need mitigation measures through planting. Avoidance measures along with the permit conditions are considered sufficient to adequately address impacts to black cockatoos from the proposed clearing.
Land clearing for dam construction and grazing is unnecessary in the south-west	The impact from the proposed clearing is not assessed to be significant. The applicant no longer proposes grazing as the purpose for clearing within the property.
Direct and indirect impacts on birds and other biodiversity	See section 3.2 of the decision report and the conditions imposed on the clearing permit.
Photographs supplied by the applicant show Karri and a few other flora species. However, it is not stated what the other flora species are to be cleared from the property	The DWER officers undertook an inspection to the property as part of the clearing permit assessment. See section 3.2.1 of the decision report for further details.

Summary of comments	Consideration of comment
The clearing application and the approval process places no economic value on our native vegetation	Noted. However, this matter is not within the scope of the 10 clearing principals the proposed clearing area is assessed against.

## Appendix C. Site characteristics

### C.1. Site characteristics

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

Characteristic	Details
Local context	<p>The application area occurs within the Warren Interim Biogeographic Regionalisation for Australia (IBRA) bioregion, Warren subregion.</p> <p>Aerial imagery and spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 33 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The application area does not intersect any significant ecological linkages.</p> <p>The closest linkage is South West Regional Ecological Linkage mapped by Molloy et al. (2009) approximately 1.4 kilometre to the north and to the south of the application area.</p>
Conservation areas	<p>The closest conservation area is an un-named timber reserve located approximately 900 metres north west of the application area.</p> <p>No conservation areas are mapped within the Application area.</p>
Vegetation description	<p>Photographs supplied by the applicant (Rebecca Drake, 2022b) and the DWER site inspection (DWER, 2022) indicate the vegetation within the proposed clearing area consists of <i>Eucalyptus diversicolor</i> (karri) forest with a midstorey dominated by <i>Acacia pentadenia</i> (karri wattle), <i>Tremandra stelligera</i> and <i>Trymalium odoratissimum</i>. The understorey was relatively sparse with exotic grasses dominant in patches, with other areas lacking understorey growth due to the dense karri leaf and bark litter. <i>Hibbertia amplexicaulus</i> and <i>Pteridium esculentum</i> (bracken fern) were also identified.</p> <p>Representative photos and the full survey descriptions and maps are available in Appendix F.</p> <p>The mapped vegetation types within the Application area:</p> <ul style="list-style-type: none"> <li>60% of the application area is mapped within the Pemberton (221) complex, which is described as tall open forest of <i>Eucalyptus diversicolor</i> with mixtures of <i>Corymbia calophylla</i> on valley slopes and low forest of <i>Agonis juniperina-Banksia seminuda-Callistachys lanceolata</i> on valley floors in the perhumid zone.</li> <li>40% of the application area is mapped within the Crowea (70) complex, which is described as tall open forest of <i>Corymbia calophylla</i> with mixture of <i>Eucalyptus marginata subsp. marginata</i> and <i>Eucalyptus diversicolor</i> on uplands in hyperhumid and perhumid zones.</li> </ul> <p>The mapped vegetation types retain more than 30 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Photographs supplied by the applicant (Rebecca Drake, 2022b) and the DWER site inspection (DWER, 2022) indicate the vegetation within the proposed clearing area is predominately in good condition with degraded areas occurring around the watercourse (Keighery, 1994)</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix E.</p>

Characteristic	Details
	Representative photos are available in Appendix F.
Climate and landform	<p>The property is situated near the 950 mm rainfall isohyte. The subject land occupies the low and upper slope positions in the landscape (CSLC, 2023b).</p> <p>The Manjimup land resources survey (Churchward, 1992) indicates that the subject land is part of the Pimelia Valleys System. Two soil-landscape map unit phases dominate the proposed clearing – the Pemberton subsystem (Pimelia) (254PvPM) and the Crowea (Pimelia), yellow duplex phase (254PvCRy).</p>
Soil description	<p>The application area is mapped within two soil landscaping mapping systems (DPIRD, 2019).</p> <ul style="list-style-type: none"> <li>• Pemberton subsystem: Loamy gravels, Friable Red/brown loamy earths, Brown loamy earths and Red deep loamy duplexes</li> <li>• Crowea (Pimelia): Loamy gravels and Duplex sandy gravels.</li> </ul>
Land degradation risk	<p>The Commissioner of Soil and Land Conservation (2023a) advised that the soils in the application area have:</p> <ul style="list-style-type: none"> <li>• a high risk of waterlogging, most likely associated with watercourse;</li> <li>• a high risk phosphorus export; and</li> <li>• a low risk of land degradation in the form soils erosion (water and wind erosion) and salinity.</li> </ul>
Waterbodies	<p>Application area is intersected by a minor perennial watercourse which occurs 30 metres inside of the south western boundary of the application area.</p> <p>No wetlands are mapped within the application area</p>
Hydrogeography	<p>The application area:</p> <ul style="list-style-type: none"> <li>• Falls within the Warren River Water Reserve clearing control catchment which is Zoned C under the <i>Country Areas Water Supply Act 1947</i>.</li> <li>• Falls within the Waaren River and Tributaries proclaimed under the <i>Rights in Water and Irrigation Act 1951</i>.</li> <li>• Does not fall within a proclaimed Groundwater Area under the RiWI Act</li> <li>• Does not fall within Public Drinking Water Source Areas</li> </ul> <p>Groundwater salinity within the application area is mapped as 500-1000 milligrams per litre total dissolved solids. This level of salinity is classified as marginal.</p>
Flora	<p>The desktop assessment identified one threatened and six priority flora in the ten-kilometre radius local area. The application area may contain suitable habitat for three priority flora species recorded from habitats broadly similar to the vegetated areas of the application area, and from soil and/or vegetation types similar to those mapped within the application area.</p>
Ecological communities	<p>No threatened or priority ecological communities are mapped within the application area or in the close proximity to the application area.</p>
Fauna	<p>Fourteen threatened, six priority and one 'other specially protected' fauna has been recorded in the local area. The application area may contain suitable habitat for six threatened, one priority and one conservation dependent fauna species.</p>

## C.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	833,981.90	667,164.80	79.1	558,485	66.9
Vegetation complex					
Crowea - 70	33,764.55	24,324.31	72	22,509.40	66.60
Pemberton - 221	25,801.15	16,661.53	64.5	15,021.44	58.20
Local area					
10km radius	32,742.54	10,671.27	33	-	-

\*Government of Western Australia (2019a)

## C.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), the following conservation significant flora were further considered.

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 record locations (total)
<i>Amanita kalamundae</i>	3	Y	Y	Y	5.02	1
<i>Caladenia christineae</i>	T	Y	N	N	5.80	1
<i>Calytrix pulchella</i>	3	N	N	N	5.77	1
<i>Chamelaucium forrestii</i>	2	Maybe	Y	N	5.02	1
<i>Deyeuxia inaequalis</i>	1	Y	Y	Y	3.30	1
<i>Stylidium roseonatum</i>	3	Y	N	N	5.80	1
<i>Xanthoparmelia xanthomelanoides</i>	2	N	N	Y	7.86	1

## C.4. Fauna analysis table

Species scientific name	Species common name	Conservation status	Year of most recent record	Number of known records (total)	Distance of closest record to application area (km)	habitat present?
<i>Calyptorhynchus banksii naso</i>	forest red-tailed black cockatoo	VU	2017	18	1.61	Potential breeding
<i>Calyptorhynchus baudinii</i>	Baudin's cockatoo	EN	2018	56	0.13	Potential breeding
<i>Calyptorhynchus latirostris</i>	Carnaby's cockatoo	EN	2018	17	0.13	Potential breeding
<i>Calyptorhynchus sp. 'white-tailed black cockatoo'</i>	White-tailed black cockatoo	EN	2018	69	1.59	Potential breeding
<i>Dasyurus geoffroii</i>	chuditch, western quoll	VU	2007	15	5.02	Visitor
<i>Isodon fusciventer</i>	Quenda, southwestern brown bandicoot	P4	2010	16	1.68	Visitor

Species scientific name	Species common name	Conservation status	Year of most recent record	Number of known records (total)	Distance of closest record to application area (km)	habitat present?
<i>Phascogale tapoatafa wambenger</i>	south-western brush-tailed phascogale, wambenger	CD	2001	56	0.75	Potential hollows
<i>Pseudocheirus occidentalis</i>	Western ringtail possum, ngwayir	CR	2019	122	1.64	Visitor-foraging
<i>Setonix brachyurus</i>	Quokka	VU	2017	14	5.02	Visitor

### C.5. Land degradation risk table

A land degradation risk assessment was undertaken by officers from the Department of Primary Industries and Regional Development on 12 April 2023 (CSLC, 2023b). The following table summarises the land degradation risk assessment within the application area.

Risk categories	Pemberton subsystem	Crowea subsystem
Wind erosion	34% has a high risk	64% has a high risk
Water erosion	41% has a high to very high risk	84% has a nil to moderate risk
Salinity	100% slight to nil	100% slight to nil
Flood risk	96% is a very low risk	100% is a very low risk
Water logging	95% is a nil to moderate risk	100% is a nil to moderate risk
Phosphorus export risk	100% has a low to moderate risk	100% has a low to moderate risk

### Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u> Area proposed to be cleared does contain suitable habitat for fauna species. However, given the avoidance, minimisation measures and the conditions on the permit, the resulting impact is not considered to be significant.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> "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."</p> <p><u>Assessment:</u> The area proposed to be cleared does contain habitat for conservation significant fauna. However, given the conditions imposed on the clearing permit and the avoidance measures agreed to by the applicant, the department considers that no significant impact would occur to habitat that supports conservation significant fauna species.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p>	Not likely to be at variance	Yes

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act.</p>		<p>Refer to Section 3.2.1, above.</p>
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain species that can indicate a threatened ecological community.</p>	<p>Not likely to be at variance</p>	<p>No</p>
<p><b>Environmental value: significant remnant vegetation and conservation areas</b></p>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of the mapped vegetation type and the native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	<p>Not likely to be at variance</p>	<p>No</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>	<p>Not likely to be at variance</p>	<p>No</p>
<p><b>Environmental value: land and water resources</b></p>		
<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 a water course is recorded within the application area, riparian vegetation is present within the application area. The proposed clearing include vegetation growing associated with a watercourse.</p>	<p>At variance</p>	<p>Yes</p> <p>Refer to Section 3.2.4, above.</p>
<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 susceptible to nutrient export and waterlogging with potential for water flow. Noting the nature of the proposed clearing and the conditions imposed on the permit, proposed clearing is not likely to have an appreciable impact on land degradation.</p>	<p>Not likely to be at variance</p>	<p>Yes</p> <p>Refer to Section 3.2.3, above.</p>
<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>A watercourse is present within the application area. The application area is mapped within the Warren River Water Reserve proclaimed under the CAWS</p>	<p>May be at variance</p>	<p>Yes</p> <p>Refer to Section 3.2.4, above.</p>

Assessment against the clearing principles	Variance level	Is further consideration required?
Act and within the surface water area proclaimed under the RiWI Act. If not managed, the proposed clearing is likely to impact surface water quality. However, with the conditions imposed on the permit, it is not likely significant impacts would occur from the proposed clearing.  The applicant is subject to obtaining a bed and banks permit from the DWER to disturb the soil along the watercourse.		
<u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”  <u>Assessment:</u>  According to the land degradation risk assessment report by DPIRD, the likelihood of flooding in the location where the application area is situated is considered low. No significant change from the proposed clearing is expected.	Not likely to be at variance	No

## Appendix E. 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 F. photographs of the vegetation from the site inspection report (DWER, 2022a) and Photographs provided by the applicant (Drake.R, 2022)**



**Figure 2: Typical Karri loam soils of the application area**



**Figure 3: Typical dense leaf litter and emergent weeds**



**Figure 4: Typical Juvenile Karri Forest**



**Figure 5: Sprawling blackberry beyond the riparian transition zone**



**Figure 6: Small burrow**



**Figure 7: Large karri tree with hollow**



**Figure 8: Large karri tree with hollow**



**Figure 9: Large mature karri trees on eastern boundary of the application area**



**Figure 10: Karri forest**



**Figure 11: Transition zone into riparian vegetation**



**Figure 12: Karri forest**

## **Appendix G. Sources of information**

### **G.1. GIS databases**

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- 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)
- 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

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

## G.2. References

Atlas of Living Australia (n.d) *Isoodon fusciventer* retrieved from

<https://bie.ala.org.au/species/https://biodiversity.org.au/afd/taxa/7ab4afa0-70ec-4a57-8429-7299ea4440eb#overview>

Bradshaw, F.J. (2015). Reference material for karri forest silviculture, Department of Parks and Wildlife, Perth. Retrieved from Microsoft Word - CPS 9594-1 - Draft Permit (revised Sep2023) (dwer.wa.gov.au)

Commissioner of Soil and Land Conservation (CSLC) (2023a) *Additional advice from Buddy Wheaton for clearing permit application CPS 9631/1*, received 16 May 2023. Department of Primary Industries and Regional Development, Western Australia (DWER Ref: DWERDT779632).

Commissioner of Soil and Land Conservation (CSLC) (2023b) *Land Degradation Advice and Assessment Report for clearing permit application CPS 9631/1*, received 16 May 2023., Department of Primary Industries and Regional Development, Western Australia (DWER Ref: DWERDT779632).

Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

Commonwealth of Australia. (2012). Department of Sustainability, Environment, Water, Population and Communities. *EPBC Act referral guidelines for three threatened black cockatoo species*.

Department of Agriculture, Water and the Environment (DAWE) (2022). Referral guideline for 3 WA threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and the Forest Red-tailed

Department of Environment and Conservation (DEC) (2008). Forest Black Cockatoo (Baudin's Cockatoo *Calyptorhynchus baudinii* and Forest Red-tailed Black Cockatoo *Calyptorhynchus banksia naso*) Recovery Plan, Department of Environment and Conservation, Western Australia. Retrieved from <https://www.dcceew.gov.au/sites/default/files/documents/wa-forest-black-cockatoos-recovery-plan.pdf>

Department of Environment and Conservation (2012a). Chuditch (*Dasyurus geoffroii*) Recovery Plan. Wildlife Management Program No. 54. Department of Environment and Conservation, Perth, Western Australia

Department of Environment and Conservation (DEC) (2012b), Fauna profile for Brush-tailed Phascogale *Phascogale tapoatafa* (Meyer, 1793). Available from <https://library.dbca.wa.gov.au/static/FullTextFiles/925273.pdf>

Department of Environment and Conservation (DEC) (2013). Quokka *Setonix brachyurus* Recovery Plan. Wildlife Management Program No. 56. Department of Environment and Conservation, Perth, WA.

Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: [https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2\\_assessment\\_native\\_veg.pdf](https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf).

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.

- Department of Primary Industries and Regional Development (DPIRD) (2019). *NRInfo Digital Mapping. Department of Primary Industries and Regional Development*. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (accessed 21 August 2023).
- Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: [https://dwer.wa.gov.au/sites/default/files/Procedure\\_Native\\_vegetation\\_clearing\\_permits\\_v1.PDF](https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF).
- Department of Water and Environmental Regulation (DWER) (2022) *Site Inspection Report for Clearing Permit Application CPS 9631/1*, 07 October 2022. Department of Water and Environmental Regulation, Western Australia (DWER Ref: DWERDT702919).
- Department of Water and Environmental Regulation (DWER) (Regulatory Services – Water) (2022b) *Rights in Water and Irrigation Act 1914 advice for clearing permit application CPS 9631/1*, received 27 April 2022 (DWER Ref: DWERDT601194).
- Department of Water and Environmental Regulation (DWER) (Regulatory Services – Water) (2022c) *Rights in Water and Irrigation Act 1914 advice for clearing permit application (RiWI Act) advice for clearing permit application CPS 9631/1*, received 17 August 2022 (DWER Ref: DWERDT646143, DWERDT716598).
- Department of Water and Environmental Regulation (DWER) (Regulatory Services – Water) (2020d) *Country Areas Water Supply Act 1947 (CAWS Act) advice for clearing permit application CPS 9631/1*, received 17 November 2020 and 06 September 2023 (DWER Ref: A1956294, DWERDT831736).
- Government of Western Australia (2019a) *2018 South West Vegetation Complex Statistics. Current as of March 2019*. WA Department of Biodiversity, Conservation and Attractions, Perth, <https://catalogue.data.wa.gov.au/dataset/dbca>
- Government of Western Australia. (2019b) *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019*. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Hayward, M.W., de Tores, P.J. & Banks, P.J. (2005). Habitat use of the Quokka, *Setonix brachyurus* (Macropodidae: Marsupialia), in the Northern Jarrah Forest of Australia. *Journal of Mammalogy*. 86(4):683-688
- Jones, B.A., How, R.A. and Kitchener, D.J. (1994). A Field Study of *Pseudocheirus occidentalis* (Marsupialia :Petauridae). II. Population Studies. *Wildlife Research* 21; 189-201.
- Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shire of Manjimup (2022) *Advice for clearing permit application CPS 9631/1*, received 06 May 2022 (DWER Ref: DWERDT599892).
- Mattiske, E.M. and Havel, J.J. (1998) *Vegetation Complexes of the South-west Forest Region of Western Australia*. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.
- 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.
- Schoknecht, N., Tille, P. and Purdie, B. (2004) *Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs* Resource Management Technical Report No. 280. Department of Agriculture.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Submission (2022a) *Public submission in relation to clearing permit application CPS 9631/1*, received 27 April 2022 (DWER Ref: DWERDT595802).



- Submission (2022b) *Public submission in relation to clearing permit application CPS 9631/1*, received 11 May 2022 (DWER Ref: DWERDT602081).
- Submission (2022c) *Public submission in relation to clearing permit application CPS 9631/1*, received 09 May 2022 (DWER Ref: DWERDT601134).
- Rebecca Drake (2022a) *Clearing permit application CPS 9631/1*, received 23 February 2022 (DWER Ref: DWERDT568582).
- Rebecca Drake (2020b) *Supporting information for clearing permit application CPS 9631/1*, received 16 March 2022 (DWER Ref: DWERDT577732, DWERDT577733).
- Valentine, L.E. and Stock, W. (2008) *Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) in the Gnangara Sustainability Strategy Study Area*. Edith Cowan University and Department of Environment and Conservation. December 2008.
- Webb, A., Kinloch, J., Keighery, G. and Pitt, G. 2016. The Extension of Vegetation Complex Mapping to Landform boundaries within the Swan Coastal Plain Landform and Forested Region of South West Western Australia. Department of Parks and Wildlife, Bunbury, WA
- Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 21 August 2023)