



## CLEARING PERMIT

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

### PERMIT DETAILS

Area Permit Number: CPS 9224/1  
File Number: DWERVT7587  
Duration of Permit: From 4 November 2021 to 4 November 2030

### PERMIT HOLDER

Montague VY No.1 Pty Ltd ATF Montague Trust

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 32 on Deposited Plan 46641, Wilyabrup

### AUTHORISED ACTIVITY

The permit holder must not clear more than 1.7 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

### CONDITIONS

#### 1. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 4 November 2025.

#### 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. Directional clearing

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

#### 5. Fauna management – western ringtail possums

- (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 western ringtail possum(s) (*Pseudocheirus occidentalis*).
- (b) Clearing activities must cease in any area where fauna referred to in condition 5(a) are identified until either:
  - (i) the western ringtail possum(s) individual has moved on from that area to adjoining *suitable habitat*; or
  - (ii) the western ringtail possum(s) individual has been removed by a *western ringtail possum specialist*.
- (c) Any western ringtail possum(s) individual removed in accordance with condition 5(b)(ii) must be relocated by a *western ringtail possum specialist* to adjacent *suitable habitat*.
- (d) Where fauna is identified under condition 5(a), the permit holder must, within two months of undertaking the inspection, provide the following records to the *CEO*:
  - (i) the number of individuals identified;
  - (ii) the date each individual was identified;
  - (iii) the location where each individual was identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  - (iv) the number of individuals removed and relocated;
  - (v) the relevant qualifications of the *fauna specialist* undertaking the inspection and/or the *western ringtail possum 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 GDA94, 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.

## 6. Mitigation – revegetation and rehabilitation requirements

Within 24 months of the commencement of clearing, the permit holder must implement and adhere to the ‘Technical Memorandum, Revegetation Plan, Montague Estate. Version A. July 2021’, including but not limited to the following actions;

- (a) commence *revegetating* and *rehabilitating* the area cross-hatched red on Figure 1 of Schedule 1, by way of:
  - (i) deliberately *planting* tube stock and salvaged *native vegetation*; and
  - (ii) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.
- (b) implement hygiene protocols by cleaning earth-moving machinery of soil and vegetation prior to entering and leaving the site;
- (c) establish no less than three 5 x 5 metre quadrat monitoring sites within the *revegetated* and *rehabilitated* areas;
- (d) engage an *environmental specialist* to monitor quadrats as specified in condition 6(c) at intervals of one month, nine months and two years following deliberate *planting*,
- (e) achieve the completion criteria specified in the attached Schedule 2 after the two-year monitoring period for the area *revegetated* and *rehabilitated*;
- (f) undertake *weed* control activities on an ‘as needs’ basis to maintain the minimum completion criteria specified in the attached Schedule 2;
- (g) undertake remedial actions for the area *revegetated* and *rehabilitated* where monitoring indicates that *revegetation* has not met the completion criteria, outlined in the attached Schedule 2, including:
  - (i) *revegetate* the area by deliberately *planting native vegetation* that will result in the minimum targets specified in the attached Schedule 2 and ensuring only *local provenance* seeds and propagating material are used;
  - (ii) undertake further *weed* control activities;
  - (iii) implement pest management measures, as required;
  - (iv) undertake further watering activities, as required; and
  - (v) undertake annual monitoring of each *revegetated* and *rehabilitated* site, until the completion criteria, outlined in the attached Schedule 2 are met.

## 7. 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 Geocentric Datum Australia 1994 (GDA94), 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) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2; and</li> <li>(f) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with condition 3;</li> <li>(g) actions taken to undertake slow, progressive clearing in accordance with condition 4; and</li> <li>(h) actions taken to manage and mitigate impacts to western ringtail possums in accordance with condition 5.</li> </ul>
2.	In relation to the revegetation and rehabilitation of areas pursuant to condition 6	<ul style="list-style-type: none"> <li>(a) size of the area <i>revegetated</i> and <i>rehabilitated</i>;</li> <li>(b) the date(s) on which the area <i>revegetation</i> and <i>rehabilitation</i> was undertaken;</li> <li>(c) the boundaries of the area <i>revegetated</i> and <i>rehabilitated</i> (recorded digitally as a shapefile);</li> <li>(d) description of the <i>revegetation</i> and <i>rehabilitation</i> activities undertaken, including actions taken to implement hygiene protocols and <i>weed</i> control;</li> <li>(e) a copy of the <i>environmental specialist's</i> monitoring report; and</li> </ul>

No.	Relevant matter	Specifications
		(f) description of any remedial actions undertaken, where the <i>environmental specialist's</i> report indicates that revegetation has not met the completion criteria specified in the attached Schedule 2.

## 8. Reporting

- (a) The permit holder must provide to the *CEO*, on or before 30 June of each calendar year, a written report containing:
  - (i) the records required to be kept under condition 7; and
  - (ii) records of 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 has been undertaken, a written report confirming that no clearing under this permit has been undertaken, must be provided to the *CEO* on or before 30 June of each calendar year.
- (c) The permit holder must provide to the *CEO*, no later than 90 calendar days prior to the expiry date of the permit, a written report of records required under condition 7, where these records have not already been provided under condition 8(a).

## DEFINITIONS

In this permit, the terms in Table 2 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.
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 CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the <i>Biodiversity Conservation Act 2016</i> .
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.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of two (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.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same IBRA subregion of the area cleared.
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.
planting	means the re-establishment of vegetation by creating soil conditions and planting seedlings of the desired species
revegetate/ed/ing/ion	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
rehabilitate/ed/ing/ion	means the re-establishment of a cover of <i>local provenance</i> native vegetation in an area using methods such as natural regeneration, direct seeding and/or <i>planting</i> , so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
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

Term	Definition
	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.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.
western ringtail possum specialist	means a <i>fauna specialist</i> who holds a tertiary qualification specialising in environmental science or equivalent, has a minimum of two years of work experience in western ringtail possum ( <i>Pseudocheirus occidentalis</i> ) identification, surveys of western ringtail possums and capture and handling of western ringtail possums, and holds a valid fauna licence issued under the <i>Biodiversity Conservation Act 2016</i> .

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**END OF CONDITIONS**




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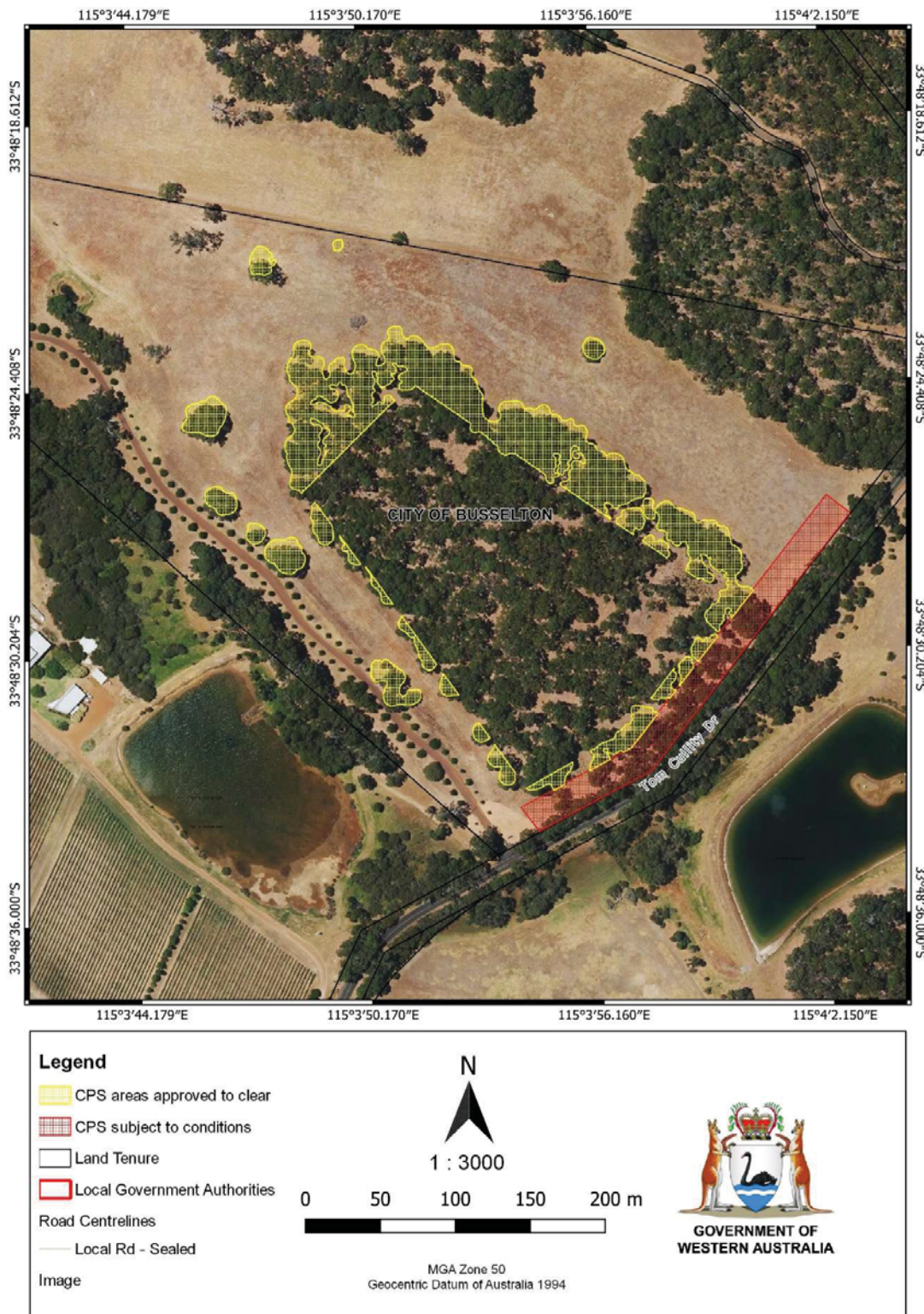
Meenu Vitarana  
 A/MANAGER  
 NATIVE VEGETATION REGULATION

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

12 October 2021



# SCHEDULE 1



**Figure 1: Map of the boundary of the area within which clearing may occur (cross-hatched yellow) and the boundary of the area within which specific revegetation conditions apply (cross-hatched red).**



## SCHEDULE 2

The revegetation completion criteria are shown in the table below.

Characteristic	Measure	Baseline floristic data	Completion targets	Completion criteria	Monitoring
1. Species diversity	i) Total upper layer	<p>The following three canopy species are known from the greater site based on baseline data from vegetation survey:</p> <ul style="list-style-type: none"> <li>• <i>Agonis flexuosa</i></li> <li>• <i>Corymbia calophylla</i></li> <li>• <i>Eucalyptus marginata</i></li> </ul>	Minimum of 60 per cent native canopy species returned, based on baseline data for the greater site.	At least two of the canopy species specified in the baseline floristic data column are to be present in the revegetation area.	<p>The canopy species diversity within the revegetation area will be recorded at intervals of one month, nine months and two years following planting.</p> <p>As required, monitoring will then continue annually until this criterion is met.</p>
	ii) Total mid-layer	<p>The following 12 mid-storey species are known from the greater site based on baseline data from vegetation survey:</p> <ul style="list-style-type: none"> <li>• <i>Acacia pulchella</i> var. <i>pulchella</i></li> <li>• <i>Banksia grandis</i></li> <li>• <i>Billardiera fusiformis</i></li> <li>• <i>Bossiaea aquifolium</i> subsp. <i>aquifolium</i></li> <li>• <i>Hakea ruscifolia</i></li> <li>• <i>Hakea trifurcata</i></li> <li>• <i>Hibbertia hypericoides</i></li> <li>• <i>Macrozamia riedlei</i></li> <li>• <i>Mirbelia dilatata</i></li> <li>• <i>Philotheca spicata</i></li> <li>• <i>Podocarpus droopii</i></li> <li>• <i>Xanthorrhoea priesii</i></li> </ul>	Minimum of 50 per cent native mid-storey species returned, based on baseline data for the greater site.	At least six of the mid-storey species specified in the baseline floristic data column are to be present in the revegetation area.	<p>The mid-storey species diversity within the revegetation area will be recorded at intervals of one month, nine months and two years following planting.</p> <p>As required, monitoring will then continue annually until this criterion is met.</p>
	iii) Total ground layer	<p>The following seven understorey species are known from the greater site based on baseline data from vegetation survey:</p> <ul style="list-style-type: none"> <li>• <i>Adenanthos barbigera</i></li> <li>• <i>Banksia dallanneyi</i> subsp. <i>dallanneyi</i></li> <li>• <i>Clematis pubescens</i></li> <li>• <i>Dampiera linearis</i></li> <li>• <i>Hovea elliptica</i></li> <li>• <i>Hybanthus calycinus</i></li> <li>• <i>Lechenaultia biloba</i></li> </ul>	Minimum of 60 per cent native understorey species returned, based on baseline data for the greater site.	At least four of the understorey species specified in the baseline floristic data column are to be present in the revegetation area.	<p>The understorey species diversity within the revegetation area will be recorded at intervals of one month, nine months and two years following planting.</p> <p>As required, monitoring will then continue annually until this criterion is met.</p>

<b>Characteristic</b>	<b>Measure</b>	<b>Baseline floristic data</b>	<b>Completion targets</b>	<b>Completion criteria</b>	<b>Monitoring</b>
2. Survival rate to be achieved	Total plant survivorship	Information not recorded for a baseline site, an approximate survivorship rate of 75 per cent has been assumed.	Minimum plant survival rate of 75 per cent within the revegetation area.	Plant survivorship within the revegetation area is to be at least 75 per cent of all planted tubestock.	Plant survivorship within the revegetation area will be recorded at two years following planting, and then annually as required until this criterion is met.
3. Species density	i) Total upper layer	Information not recorded for a baseline site. An approximate planting density of one plant per 5m <sup>2</sup> has been proposed based on layer, with a plant survivorship of 75 per cent.	Maintain or exceed baseline data, allowing for a plant survival rate of 75 per cent.	Minimum of one upper layer plant per 7 m <sup>2</sup> on average within the revegetation area.	The upper layer species density within the revegetation area will be recorded at intervals of one month, nine months and two years following planting.  As required, monitoring will then continue annually until this criterion is met.
	ii) Total mid-layer	Information not recorded for a baseline site. An approximate planting density of one plant/m <sup>2</sup> has been proposed based on layer, with a plant survivorship of 75 per cent.	Maintain or exceed baseline data, allowing for a plant survival rate of 75 per cent.	Minimum of one mid-layer plant per 1.5 m <sup>2</sup> on average within the revegetation area.	The mid-layer species density within the revegetation area will be recorded at intervals of one month, nine months and two years following planting.  As required, monitoring will then continue annually until this criterion is met.
	iii) Total ground layer	Information not recorded for a baseline site. An approximate planting density of one plant/m <sup>2</sup> has been proposed based on layer, with a plant survivorship of 75 per cent.	Maintain or exceed baseline data, allowing for a plant survival rate of 75 per cent.	Minimum of one ground layer plant per 1.5 m <sup>2</sup> on average within the revegetation area.	The ground layer species density within the revegetation area will be recorded at intervals of one month, nine months and two years following planting.  As required, monitoring will then continue annually until this criterion is met.

Characteristic	Measure	Baseline floristic data	Completion targets	Completion criteria	Monitoring
4. Weed cover	i) General weed cover	<p>The following weed species are known from the greater site based on baseline data from vegetation survey:</p> <ul style="list-style-type: none"> <li>• <i>Arctotheca calendula</i></li> <li>• <i>Briza maxima</i></li> <li>• <i>Briza minor</i></li> <li>• <i>Cenchrus clandestinus</i></li> <li>• <i>Cotula turbinata</i></li> <li>• <i>Disa bracteata</i></li> <li>• <i>Freesia alba x leichlinii</i></li> <li>• <i>Galium murale</i></li> <li>• <i>Holcus lanatus</i></li> <li>• <i>Hypochoeris radicata</i></li> <li>• <i>Lolium rigidum</i></li> <li>• <i>Metateuca nesophila</i></li> <li>• <i>Olea europaea</i></li> <li>• <i>Orobancha minor</i></li> <li>• <i>Oxalis pes-caprae</i></li> <li>• <i>Paspalum dilatatum</i></li> <li>• <i>Romulea rosea</i></li> <li>• <i>Sphaeropteris cooperi</i></li> <li>• <i>Zantedeschia aethiopica</i></li> </ul> <p>Percentage weed cover was not recorded for a baseline site and is assumed to vary across the greater site based on the vegetation condition identified in the vegetation survey.</p>	Reduction in weed cover.	Total weed cover within the revegetation area will not exceed 15 per cent.	General weed cover within the revegetation area will be monitored at intervals of one month, nine months and two years following planting.  As required, monitoring will then continue annually until this criterion is met.
	ii) Declared weeds	<p>One declared weed species, <i>Zantedeschia aethiopica</i> (arum lily), was identified within the greater site during the vegetation survey.</p>	No declared weeds to be present within revegetation area.	0 per cent cover of declared weed species within the revegetation area.	The revegetation area will be monitored for the presence of declared weeds at intervals of one month, nine months and two years following planting.  As required, monitoring will then continue annually until this criterion is met.



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9224/1
<b>Permit type:</b>	Area permit
<b>Applicant name:</b>	Montague VY No.1 Pty Ltd ATF Montague Trust
<b>Application received:</b>	26 February 2021
<b>Application area:</b>	1.7 hectares of native vegetation
<b>Purpose of clearing:</b>	Installing vineyards and associated activities
<b>Method of clearing:</b>	Mechanical
<b>Property:</b>	Lot 32 on Deposited Plan 46641
<b>Location (LGA area/s):</b>	City of Busselton
<b>Localities (suburb/s):</b>	Wilyabrup

### 1.2. Description of clearing activities

The vegetation proposed to be cleared includes one area of continuous canopy along the perimeter of an existing remnant and several scattered trees within a historically cleared paddock (see Figure 1, Section 1.5). The proposed clearing is to support viticultural practices, including planting of additional vineyard areas and providing access for machinery and emergency response vehicles.

The application was revised during the assessment process following an additional viticultural assessment of the soils and landform of the application area undertaken by the applicant to identify efficiencies in the vineyard layout (Emerge Associates, 2021c). The changes included:

- A reduction in the amount of clearing from 5.47 hectares to 1.7 hectares to avoid and minimise the clearing impacts (see Section 3.1 for further details), and
- Removal of all black cockatoo habitat trees identified to contain suitable or potentially suitable hollows from the proposed clearing area (see Section 3.1 for further details).

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	12 October 2021
<b>Decision area:</b>	1.7 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 a total of 28 days and two submissions were received. Consideration of matters raised in the public submissions is 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), the findings of a fauna survey and targeted black cockatoo assessment (Emerge

Associates, 2020a), a flora and vegetation survey (Emerge Associates, 2020b) and a targeted western ringtail possum assessment (Emerge Associates, 2021d) (see Appendix F), 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 clearing footprint was revised during the assessment from 5.47 hectares to 1.7 hectares to avoid and minimise the clearing impacts, including all trees identified to contain suitable breeding hollows for black cockatoo species during the targeted black cockatoo habitat assessment (see Section 3.1 for further details).

The assessment identified that the proposed clearing will result in:

- the loss of 1.7 hectares of native vegetation that is suitable foraging and roosting habitat for the forest red-tailed black cockatoo, Baudin's cockatoo, and Carnaby's cockatoo (black cockatoo species),
- the loss of 1.7 hectares of native vegetation that is suitable habitat for the western ringtail possum, and
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

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 long-term adverse impacts on biological, conservation, or land and water resource values, and can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values. The Delegated Officer considered that the proposed clearing was unlikely to represent a significant impact to foraging or roosting habitat for black cockatoo species, given its distance from the closest confirmed breeding site and the extent of foraging habitat proposed to be cleared in the context of the greater site and local area. The Delegated Officer also determined that impacts to significant habitat for the western ringtail possum was unlikely to result from the proposal, given the sparse canopy of the application area, the extent of suitable habitat proposed to be clearing in the context of the site and local area, and that no individuals were identified within the application area during the fauna survey. The assessment acknowledged that the proposed clearing has the potential to result in direct impacts to fauna that may be utilising the application area at the time of the clearing. The Delegated Officer determined that the potential for direct impacts to fauna can be mitigated through permit conditioning.

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

- avoid, minimise and 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,
- engage a fauna specialist to inspect the clearing area prior to, and for the duration of clearing activities, for the presence of western ringtail possums, to mitigate direct impacts to individuals resulting from clearing activities, and
- undertake revegetation of an adjacent 0.605-hectare area through respreading of vegetative material and topsoil and deliberate planting of local provenance tube stock within 24 months of clearing.



## 1.5. Site map

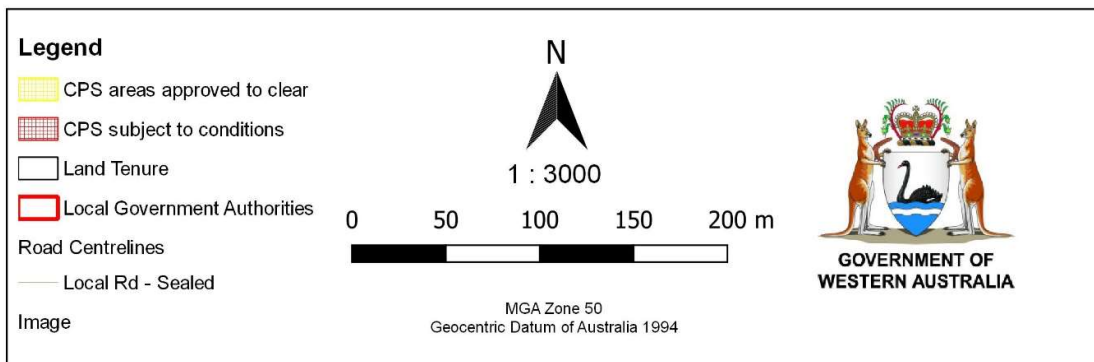


Figure 1 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit. The area cross-hatched red indicates area within which specific revegetation conditions apply.

## 2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Rights in Water and Irrigation Act 1914* (WA) (RIWI Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- *A guide to preparing revegetation plans for clearing permits* (DWER, March 2018)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

#### Project design and planning

Supporting documentation submitted by the applicant demonstrated that the location of the proposed additional vineyards has been determined to ensure suitable soil type and condition for productivity while also minimising impacts to remnant native vegetation (Emerge Associates, 2021c). The applicant advised that the proposed vineyard area is to be located within previously cleared areas that consist of scattered paddock trees over non-native grasses and weeds or within vegetation that has been historically disturbed by grazing and has limited understorey vegetation (Emerge Associates, 2021c). The proposed vineyards have also been limited to the easternmost portion of the property, avoiding better-quality remnant vegetation in the western portion (Emerge Associates, 2021c). The applicant also advised that the extent of the proposed vineyard was revised following flora, vegetation, and fauna surveys, to avoid and minimise impacts to conservation significant environmental values identified, including priority flora species and significant habitat for fauna (Emerge Associates, 2021c).

The applicant originally applied to clear 5.47 hectares of native vegetation for the purpose of installing vineyards and associated activities (Montague VY No.1 Pty Ltd, 2021). During the assessment process, the applicant undertook an additional viticultural assessment of the soils and landform of the application area and determined that a reduced vineyard layout could be utilised to maximise efficiency and avoid additional native vegetation (Emerge Associates, 2021c). The application area was subsequently reduced to 1.7 hectares and all black cockatoo habitat trees containing suitable or potentially suitable breeding hollows were removed from the application area (Figures 2-3; Emerge Associates, 2021c).



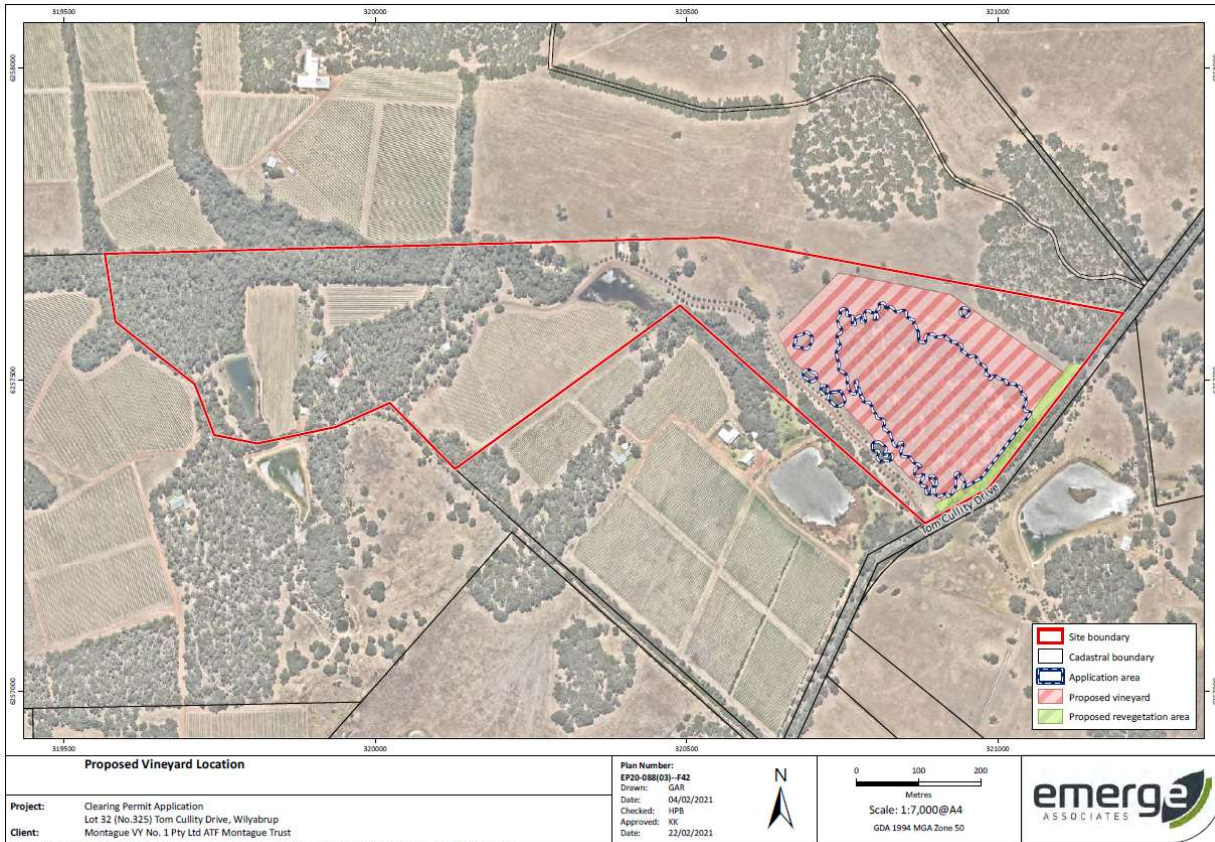


Figure 2. Original disturbance area for CPS 9224/1.

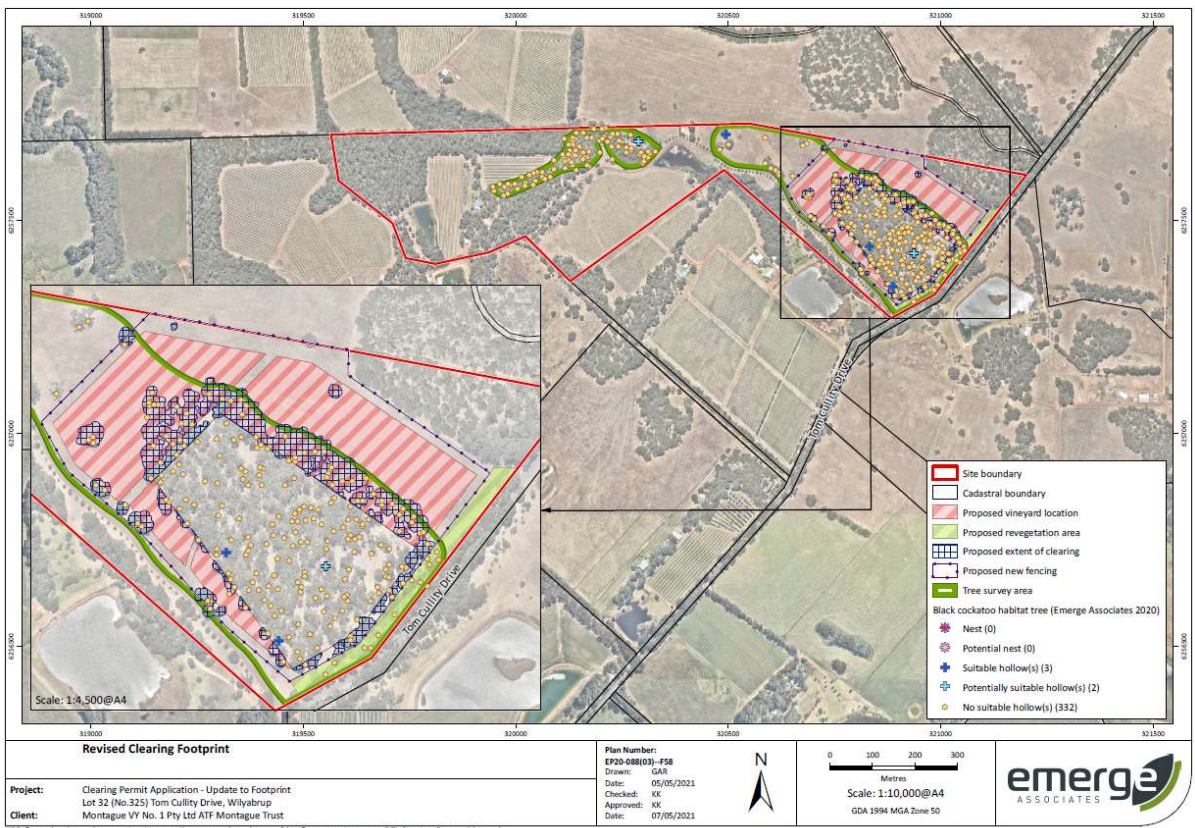


Figure 3. Revised disturbance area for CPS 9224/1, including locations of proposed revegetation area and black cockatoo habitat trees.



It should be noted that approximately 0.46 hectares of native vegetation within the area removed from the clearing permit application is intended to be cleared by the applicant for the construction and operation of short-stay accommodation in the form of up to six chalets (Figure 4; Emerge Associates, 2021a). It is likely that this clearing will be subject to an exemption pursuant to the Clearing Regulations. However, the Delegated Officer understands that the clearing required for the proposed chalets will be considered under the applicant's referral to the Commonwealth Department of Agriculture, Water and the Environment (DAWE) under the EPBC Act. The applicant has advised that bushfire mitigation is unlikely to require significant clearing to supporting buildings in the area proposed, as the current condition of the vegetation means that the canopy can largely be retained while the understorey remains degraded and contains a low fuel load (Emerge Associates, 2021c). The applicant has confirmed that the layout of the chalets will avoid significant habitat resources identified in flora, vegetation, and fauna surveys, and has advised that no suitable or potentially suitable hollows for black cockatoo species will be cleared for the construction of the proposed chalets (Emerge Associates, 2021c). Accounting for the future clearing that may be undertaken for the proposed chalets, a total of 3.31 hectares of native vegetation that was previously included in the application area will be retained and approximately 16.76 hectares of native vegetation will be retained across the property (Emerge Associates, 2021c).

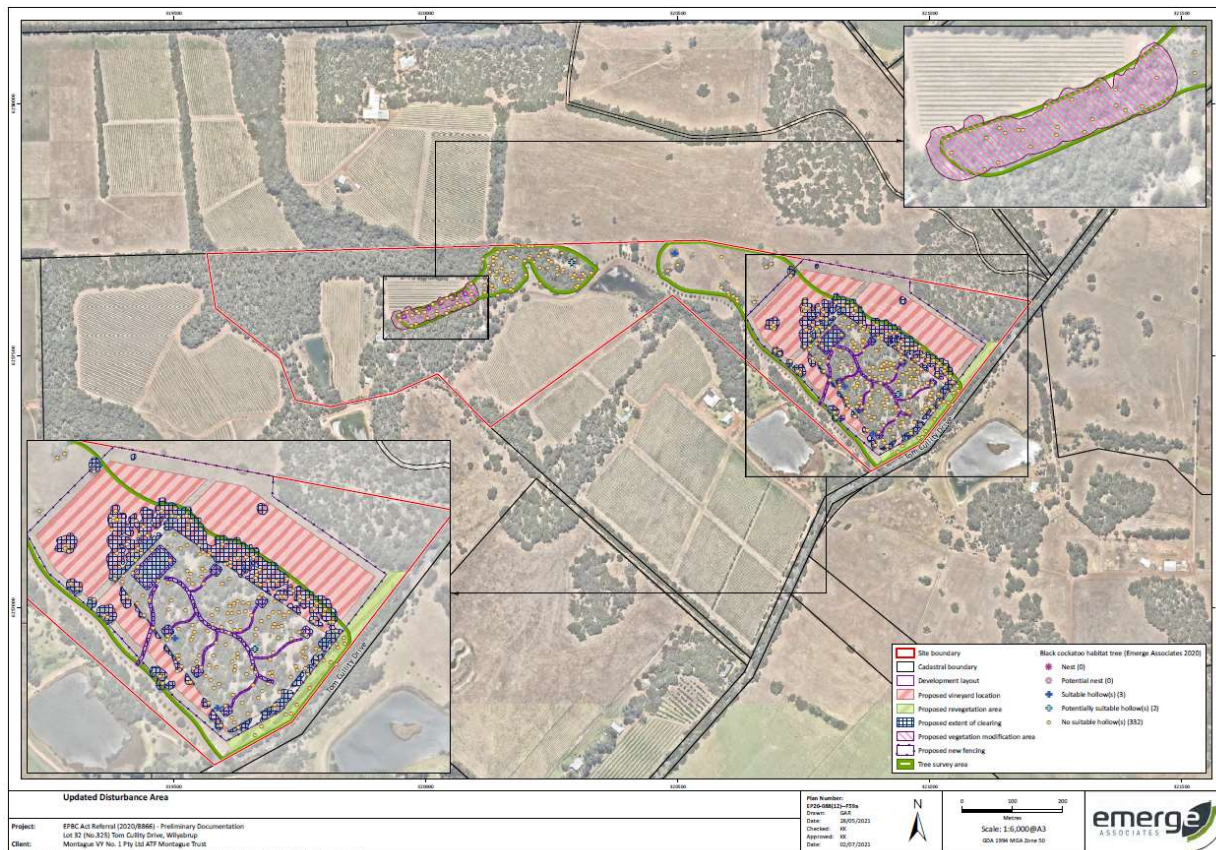


Figure 4. Revised disturbance area relating to CPS 9224/1, including locations of proposed revegetation area, black cockatoo habitat trees, and proposed chalets that may be subject to an exemption under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Emerge Associates, 2021a).

### **Construction Management Plan for project-related clearing**

The applicant has also advised that activities prior to, during and post construction of the winery expansion will be undertaken in accordance with a Construction Management Plan (CMP) prepared by Emerge Associates, which provides overarching guidance for the management of flora, vegetation, and fauna, to avoid or mitigate adverse impacts (Emerge Associates, 2021a). The provisions set out in the CMP are as follows:

#### ***Prior to clearing***

- Site preparation:
  - All vegetation to be retained will be clearly identified with marking tape, temporary fencing or similar, and
  - Black cockatoo habitat trees containing suitable or potentially suitable hollows within 10 metres of the proposed works will be clearly identified and avoided at all times.

- Tree retention:
  - Any trees identified for retention within the proposed clearing area will be clearly marked and protected to avoid unintended removal or damage in line with *AS 4970-2009 Protection of Trees on Development Sites* (Standards Australia, 2009) or in accordance with recommendations by a qualified arborist, and
  - Any trees within 10 metres of the proposed works will also be managed in line with *AS 4970-2009 Protection of Trees on Development Sites* (Standards Australia, 2009) or in accordance with recommendations by a qualified arborist, to manage potential impacts from unintended removal or damage.
- Relevant fauna licenses:
  - A Regulation 28 licence (Fauna taking (relocation) licence) will be gained from the Department of Biodiversity Conservation and Attractions (DBCA) pursuant to the BC Act (and associated regulations) prior to implementing the proposed fauna management actions.
- Pre-clearing inspection:
  - At least five days prior to undertaking clearing, an experienced fauna specialist will undertake an inspection of the clearing area to identify recent evidence of fauna activity and potential for fauna interactions during clearing,
  - All trees and hollows will be inspected by an experienced fauna specialist for evidence of use using a high-definition camera mounted on a telescopic pole, and
  - If hollows are identified to be in use, clearing will be postponed until any juveniles have left the nest.
- Informing site personnel:
  - All site personnel are to be informed of the potential for fauna to be present at the site,
  - Basic information about the steps to follow if native fauna are observed on site will be circulated to all on-site personnel during clearing works, and
  - Should fauna be observed on site, the first point of contact will be the site supervisor, who can stop work and accordingly advise the fauna specialist from Emerge Associates (Emerge Associates, 2021a).

#### **During clearing**

- Disease and weed management:
  - As it is currently unknown as to whether *Phytophthora cinnamomi* (dieback) occurs at the site, hygiene management practices will be in place to limit to potential for spread of dieback, weeds and other pathogens during clearing,
  - Vehicles, tools, equipment (including boots) and machinery shall be free of all mud, soil and plant material on arrival at the site, and
  - If vehicles, tools, equipment (including boots) and machinery are temporarily removed from the site during works they must be free of all mud, soil and plant material on return.
- Vegetation and tree retention:
  - Any trees marked for retention prior to clearing will be avoided during works.
- Fauna spotting and mitigation:
  - As far as practicable, clearing will be completed in a single direction, without creating “islands” of vegetation, ensuring that any fauna present can move into adjacent vegetation and do not become trapped during works,
  - An experienced fauna specialist with knowledge of the site will be present as a fauna spotter during clearing of vegetation and will search for vegetation immediately prior to and following clearing for the presence of fauna,
  - If fauna are identified during clearing, these individuals will be assisted to disperse to nearby vegetation where appropriate, or will be translocated,
  - A post-clearing assessment will also be undertaken for any trees with hollows identified. Felled trees will be inspected for vertebrate fauna and where identified, individuals will be removed and relocated appropriately,
  - Should injured fauna be encountered during clearing, individuals will be transferred to a registered DBCA wildlife carer for rehabilitation or to a nearby veterinarian for assessment, depending on the severity of injuries (Emerge Associates, 2021a).

#### **After clearing**

- On completion of the pre-clearing and during clearing fauna spotting program, a report summarising the number of fauna encountered during clearing and a license return will be prepared and submitted to DBCA outlining species and number of any fauna individuals translocated, and
- Measures for disease and weed management, feral species management, fauna management, and tree retention will also be implemented during the vineyard expansion and associated construction of (Emerge Associates, 2021a).



## **Revegetation Plan**

The applicant advised that they intend to revegetate a 20-metre-wide strip adjacent to the application area along the border of Tom Cullity Drive, in order to increase connectivity between retained vegetation in the north-east corner of the property and other remnant vegetation in the local area, including vegetation on nearby landholdings (Figure 4; Emerge Associates, 2021c). The total area proposed to be revegetated is 0.605 hectares (Emerge Associates, 2021b).

The applicant advised that the application area could not be revised to retain a strip of vegetation to maintain connectivity between the proposed revegetation area and retained vegetation in the centre of the application area, as a loop network on was required on the property to service the proposed vineyard area by allowing manoeuvring of machinery and enable efficient use of equipment (Emerge Associates, 2021c). The applicant also advised that this section of the application area was likely to form part of emergency vehicle access to the proposed chalets as part of future bushfire response (Emerge Associates, 2021c). The applicant indicated that the alternative to clearing this strip would be to clear more of the stand of vegetation in the centre of the application area to provide loop roads around the vineyard areas and may have required the removal of hollow bearing trees, which was considered to represent a more significant environmental impact than the loss of connectivity between the revegetation area and retained vegetation in the centre of the application area (Emerge Associates, 2021c). The applicant also advised that the application area represented the worst-case extent of clearing, and that canopy connectivity to retained vegetation adjacent to the revegetation area will be maintained where practicable (Emerge Associates, 2021c).

The applicant has advised that revegetation will be undertaken in accordance with a Revegetation Plan prepared by Emerge Associates, which outlines the procedure, completion criteria for success, and monitoring program for the proposed revegetation (Emerge Associates, 2021b). The provisions of the Revegetation Plan are as follows:

### ***Implementation of Revegetation Plan***

- Timeframe:
  - The planting will be implemented within three years of the first winter following environmental approval over a maximum three-year period, and
  - The revegetation will be completed within three-years, based on a two-year establishment period for the planting event to enable completion criteria to be achieved.
- Hygiene:
  - As it is currently unknown as to whether *Phytophthora cinnamomi* (dieback) occurs at the site, hygiene management practices will be in place to limit to potential for spread of dieback, weeds and other pathogens during clearing,
  - Vehicles, tools, equipment (including boots) and machinery shall be free of all mud, soil and plant material on arrival at the site,
  - If vehicles, tools, equipment (including boots) and machinery are temporarily removed from the site during works they must be free of all mud, soil and plant material on return, and
  - Imported fill, mulch material and tubestock shall be certified free of dieback and disease.
- Weed control:
  - Weed control will be undertaken prior to planting and as needed during the establishment of planting,
  - Following planting, weed control using minimum disturbance techniques such as hand pulling or spot spraying will be undertaken within the revegetation area, and
  - If chemical weed control is undertaken, use of a herbicide specifically formulated to be frog friendly is recommended.
- Plant installation:
  - Timing:
    - Tubestock will be installed as soon as possible once winter rains have begun, to allow plants time for establishment before the summer dry period, and
    - If required, supplementary hand watering (or similar) will be undertaken to support establishment.
  - Species selection:
    - The species selected comprises a diverse list based on species identified as occurring within or adjacent to the site during flora and vegetation surveys and species known to occur in similar habitats,
    - A list of species to be planted in revegetation areas are provided in Table 1, and
    - If any of the species in Table 1 are not available, they will be omitted and tubestock densities of other species of the same lifeform will be adjusted accordingly.
  - Tubestock densities:
    - All species will be planted as tubestock,
    - A planting density of one plant per metre squared has been used for understorey species,
    - A planting density of one plant per five metres squared has been used for trees,

- If required, supplementary infill planting will be undertaken, and
    - Where trees are already present at the appropriate density, no planting will be undertaken.
  - Sourcing tubestock:
    - Tubestock will be sourced from a *Nursery Industry Accreditation Scheme* supplier and grown as far as practical, from local seed or cuttings with genetic diversity,
    - The tubestock will be grown as tall as possible to facilitate deep planting, and
    - The tubestock will be disease and pest free, hardened off and in good condition.
  - Installing tubestock:
    - It is recommended that tubestock are installed as deeply as possible to position roots closer to water supplies and decrease water loss in hot conditions, as well as reducing the effects of herbivory, and
    - Tree guards are not recommended as these increase installation time, can become loose and become litter and require a return visit to remove bags once plants are established. The requirement for tree guards can be reviewed and installed at a later date if herbivory is identified as a significant impact on success.
- Fencing:
  - Fencing will be installed adjacent to the revegetation area, to minimise unauthorised access, protect plants and minimise livestock grazing.
- Pest control:
  - The area will be fenced, and if required trees guards, such as plastic or mesh guard, will be used as required. The use of these measures will be determined by the proponent on an as required basis, and
  - No population control or similar is proposed (Emerge Associates, 2021b).

#### **Completion criteria**

- To determine the success of the proposed revegetation, a completion criterion for a plant survival rate of 75 per cent within the revegetation area is proposed, and
- Plant survival rate will be assessed in autumn for the two years following implementation, with additional planting to be undertaken as required (where plants have died and the overall 75 per cent survival rate is not being achieved) (Emerge Associates, 2021b).

#### **Monitoring and maintenance**

- Monitoring will be undertaken to assess the outcomes of the implementation measures against the completion criteria,
- Monitoring will commence from the beginning of the revegetation to provide baseline information with which to compare progress over time,
- Regular inspections will be undertaken to monitor the success of the revegetation including:
  - Weed control: inspections one month following planting for weed infestations.
  - Plant success: survival rate of plants should be checked one month, nine months and two years following planting. With plant losses replaced when required to achieve the overall 75 per cent survival rate.
  - Pest and livestock control: inspections for evidence of overgrazing pests such as kangaroos and rabbits during the implementation stage (i.e., two years from planting). Livestock should be excluded until planting is established. Pest management measures should be implemented as required.
  - Water requirements: inspections of plant health to determine whether additional follow up watering is required, especially during dry summer months (Emerge Associates, 2021b).

In considering the above, the Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values. The Delegated Officer considered that a condition should be imposed on the clearing permit, requiring the revegetation of the 0.605-hectare area proposed by the applicant, to ensure that the mitigation measures proposed are adhered to.

### **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 biological values (fauna and flora), significant remnant vegetation, and land and water resources.

The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

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

#### Assessment

A review of available databases indicates that a total of 36 conservation significant fauna species have been recorded within the local area (see Appendix C). These species were listed under the state BC Act and/or Commonwealth EPBC Act, as Priority (P) species by DBCA, or are migratory species listed under International Agreements.

Of the conservation significant fauna species recorded within the local area, the following have the potential to be found within the application area based on habitat preferences (see Appendix C.4):

- Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) (Vulnerable under both the BC Act and EPBC Act),
- Baudin's cockatoo (*Calyptorhynchus baudinii*) (Endangered under both the BC Act and EPBC Act),
- Carnaby's cockatoo (*Calyptorhynchus latirostris*) (Endangered under both the BC Act and EPBC Act),
- Chuditch (*Dasyurus geoffroii*) (Vulnerable under both the BC Act and EPBC Act),
- Peregrine falcon (*Falco peregrinus*) (Other specially protected species under the BC Act),
- Western false pipistrelle (*Falsistrellus mackenziei*) (P4)
- Quenda (*Isodon fusciventer*) (P4)
- South-western brush-tailed phascogale (*Phascogale tapoatafa wambenger*) (Species of special conservation interest under the BC Act), and
- Western ringtail possum (*Pseudocheirus occidentalis*) (Critically Endangered under both the BC Act and EPBC Act).

#### Black cockatoo species

The forest red-tailed black cockatoo, Baudin's cockatoo, and Carnaby's cockatoo, collectively known as 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 (*Eucalyptus gomocephala*), 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 (Commonwealth of Australia, 2012). While breeding, black cockatoos also generally forage within a 6 to 12-kilometre radius of their nesting site (Commonwealth of Australia, 2012). 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. The application area is also mapped within the predicted breeding range for both the forest red-tailed black cockatoo and Baudin's cockatoo but is approximately 1.8 kilometres north-west of the nearest modelled breeding area for Carnaby's cockatoo (Commonwealth of Australia, 2012). According to available databases, the closest confirmed breeding site for the forest red-tailed black cockatoo is approximately 17 kilometres north of the application area, with the closest confirmed breeding site for either Baudin's cockatoo or Carnaby's cockatoo approximately 27 kilometres south-east.

A targeted black cockatoo habitat assessment undertaken in accordance with the *Technical guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020) and the referral guidelines for three threatened black cockatoo species (Commonwealth of Australia, 2012) was conducted over five days between 12 August and 28 October 2020 (Emerge Associates, 2020a). The black cockatoo habitat assessment confirmed that all three species of black cockatoo are present in the local area and may be utilising the application area, recording both Baudin's cockatoos and forest red-tailed black cockatoos flying over the site, as well as a small group of foraging Carnaby's cockatoos within the site (Emerge Associates, 2020a). The survey area for this assessment included two patches of remnant vegetation within Lot 32 on Deposited Plan 46641; one in the north-west corner of the property and one in the south-eastern corner, which encompassed the application area (Emerge Associates, 2020a). The survey involved traversing transects across the survey area and recording all habitat trees, hollows, and secondary evidence of breeding, roosting, and foraging observed (Emerge Associates, 2020a). Hollows that appeared from the ground to be potentially suitable for use by black cockatoo species were further inspected using a drone or pole-mounted camera to confirm the suitability of the entrance and internal hollow dimensions (Emerge Associates, 2020a).

The black cockatoo habitat assessment identified a total of 337 black cockatoo habitat trees across the survey area, of which 34 habitat trees were identified to contain hollows (Emerge Associates, 2020a). Upon further inspection through use of a drone or pole-mounted camera, five of these habitat trees were confirmed to contain hollows suitable

for use for breeding by black cockatoo species, including three trees determined to each contain one suitable hollow, one tree determined to contain two potentially suitable hollows, and one tree determined to contain one potentially suitable hollow (Emerge Associates, 2020a). None of the suitable hollows identified in the black cockatoo habitat assessment exhibited signs of use for nesting by black cockatoo species or any other fauna species (Emerge Associates, 2020a). Approximate habitat tree densities from the survey area were also used to provide an estimate of the potential number of habitat trees present within all remnant vegetation at Lot 32, and it was predicted that approximately 732 habitat trees occur within the greater site (Emerge Associates, 2020a).

As discussed under Section 3.1, the application area was revised during the assessment of the application and reduced from 5.47 to 1.7 hectares (Emerge Associates, 2021c). The revised application area excludes 135 habitat trees in the south-eastern corner of the property from the proposed clearing envelope, including three trees that were identified to contain suitable breeding hollows during the black cockatoo habitat assessment. Following the revision, the application proposes to clear a total of 76 black cockatoo habitat trees, none of which contain hollows of suitable size for use as breeding habitat by black cockatoo species. It should be noted that an additional 22 habitat trees may be cleared in the future for the construction of chalets adjacent to the application area (Emerge Associates, 2021a). However, supporting information provided by the applicant indicates that the layout of the proposed chalets will ensure that all trees with suitable breeding hollows will be retained into the future (Emerge Associates, 2021a). Given all habitat trees with suitable breeding hollows on the property will be retained and that approximately 634 habitat trees are expected to remain within the property following the proposed works, the application area is not considered to comprise significant breeding habitat for black cockatoo species and the proposed clearing is not considered likely to significantly impact black cockatoo breeding in the local area.

It is acknowledged that the potential breeding trees within the application area and greater survey area may also represent suitable roosting habitat for black cockatoo species (Emerge Associates, 2020a). However, no evidence of roosting was observed within the site during the targeted black cockatoo habitat assessment (Emerge Associates, 2020a) and the closest confirmed roost site is approximately 3.6 kilometres west of the application area, according to available databases. Further, roosting is typically noted to occur within suitable trees close to an important water source (Commonwealth of Australia, 2012). While the application area occurs within 50 metres of a non-perennial tributary of Wilyabrup Brook, it is expected that the presence of water within close proximity to the application area is seasonal and that this is unlikely to represent an important water source for black cockatoo species. Given the above, the presence of larger remnants of suitable roosting habitat in the local area, and that approximately 634 habitat trees suitable for roosting are expected to remain within the property following the proposed works, it is not considered likely that the application area contains significant roosting habitat for any black cockatoo species or will significantly impact roosting habitat in the local area.

Black cockatoo species are noted to forage on a range of plant species, with the primary foraging resources varying between species (Commonwealth of Australia, 2012). Carnaby's cockatoos forage on the seeds, nuts and flowers of a variety of plants, including Proteaceous species (*Banksia*, *Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, marri and a range of introduced species (Valentine and Stock, 2008). Forest red-tailed black cockatoos feed predominantly on the seeds of marri and jarrah, which comprise approximately 90 per cent of their diet (DEC, 2008). Baudin's cockatoos primarily feed on the seeds of marri, but may also forage on the seeds of jarrah and Proteaceous species (DEC, 2008). Given the application area contains jarrah and marri and occurs within the predicted occurrence range of all three black cockatoo species, the application area is likely to provide suitable foraging habitat.

The targeted black cockatoo habitat assessment included searches of the survey area for secondary evidence of black cockatoo foraging as well as classification of remnant vegetation within Lot 32 into primary foraging habitat, secondary foraging habitat, or habitat with no foraging value, based on percentage cover of primary and secondary foraging plants (Emerge Associates, 2020a). Primary foraging plants were defined as those with historical and contemporary records of regular consumption by each black cockatoo species and secondary foraging plants were those that black cockatoos have been observed consuming occasionally (Emerge Associates, 2020a). The black cockatoo habitat assessment identified that the remnant vegetation within Lot 32 comprises approximately 14.59 hectares of primary foraging habitat for Carnaby's cockatoo (36 per cent of the total site), 14.39 hectares for Baudin's cockatoo (35 per cent) and 14.27 hectares for forest red-tailed black cockatoo (35 per cent), as well as 1.84 hectares of secondary foraging habitat for Carnaby's cockatoo, 0.38 hectares for Baudin's cockatoo, and 0.1 hectares for the forest red-tailed black cockatoo (Emerge Associates, 2020a). The assessment also confirmed that both Carnaby's cockatoo and the forest red-tailed black cockatoo are utilising the site for foraging, directly observing a small group

of Carnaby's cockatoos foraging at the site on 13 August 2020 and identifying secondary evidence of foraging by the forest red-tailed black cockatoo in the form of chewed marri fruit (Emerge Associates, 2020a).

The black cockatoo habitat assessment identified that the revised application area contains 1.7 hectares of primary foraging habitat for the forest red-tailed black cockatoo (11.8 per cent of all foraging habitat at the site), as well as 1.7 hectares of primary and secondary foraging habitat for Baudin's cockatoo (11.5 per cent) and Carnaby's cockatoo (10.3 per cent) (Emerge Associates, 2020a). It is also acknowledged that an additional 0.46 hectares of primary foraging habitat for the forest red-tailed black cockatoo and primary and secondary foraging habitat for Baudin's cockatoo and Carnaby's cockatoo may be cleared in the future for the construction of chalets adjacent to the application area (Emerge Associates, 2021a). The black cockatoo habitat assessment indicated that, given the high cover of primary foraging plants, the foraging habitat within the application area and the greater site is likely to be of high value for all three species of black cockatoo (Emerge Associates, 2020a). However, according to available databases, there is approximately 4800 hectares of mapped foraging habitat for black cockatoo species in the local area, of which the application area comprises approximately 0.035 per cent. It is also acknowledged that mapping of potential black cockatoo foraging habitat does not extend to the west of the application area and therefore, that additional foraging resources to those mapped may be present in the local area. The referral guidelines for black cockatoo species acknowledges that foraging habitat within 12 kilometres of a breeding site and within 6 kilometres of a night roost are of particular importance for the species (Commonwealth of Australia, 2012). According to available databases, there are no confirmed breeding sites within a 12-kilometre radius of the application area, but there are six confirmed roosting sites within a 6-kilometre radius.

In regard to the forest red-tailed black cockatoo and Baudin's cockatoo, critical habitat for these species is defined as all marri, karri and jarrah forests, woodlands and remnants in the south-west of Western Australia receiving more than 600 millimetres of annual average rainfall (DEC, 2008). As the application area includes remnant marri-jarrah woodland in the south-west, it may meet the definition of critical habitat for both the forest red-tailed black cockatoo and Baudin's cockatoo. However, it is acknowledged that the application area comprises less than one per cent of all mapped foraging habitat for these species in the local area and that, given the applicant's avoidance and minimisation strategies, approximately 12.11 hectares of primary foraging habitat for the forest red-tailed black cockatoo and 12.61 hectares of primary and secondary foraging habitat for Baudin's cockatoo will remain at the site after the proposed clearing and associated chalet development. While the application area occurs within four to six kilometres of known roost sites, it is noted that there are larger remnants of high-quality foraging habitat in secure conservation estate in the local area that are likely to support foraging by roosting individuals, including Yelverton National Park, Walburra Nature Reserve, Wooditjup National Park, and State Forest, that comprises approximately 24.6 per cent of all foraging habitat in the local area. It is also acknowledged that no evidence of breeding has been observed within the site itself and that the closest confirmed breeding site to the application area is 17 kilometres for the forest red-tailed black cockatoo and 27 kilometres for Baudin's cockatoo. Given the above, the extent of foraging habitat proposed to be cleared in the context of the site and local area, and that the application area is unlikely to be supporting foraging by breeding individuals, it is not considered likely that the loss of 1.7 hectares of foraging habitat within the application area will represent a significant impact to foraging habitat for the forest red-tailed black cockatoo or Baudin's cockatoo in the local area. It is also acknowledged that the applicant proposes to revegetate 0.605 hectares of historically cleared vegetation on the property, which will include primary foraging species that will provide additional foraging habitat for both the forest red-tailed black cockatoo and Baudin's cockatoo within the site in the future.

In regard to Carnaby's cockatoo, critical habitat includes any habitat that provides for feeding, watering, regular night roosting and potential for breeding (DPAW, 2013). As the application area includes 1.7 hectares of suitable foraging habitat and potential roosting trees, it may be considered critical habitat for Carnaby's cockatoo. However, it is acknowledged that the application area comprises less than one per cent of all mapped foraging habitat for Carnaby's cockatoo in the local area and that approximately 14.27 hectares of primary and secondary foraging habitat for Carnaby's cockatoo will remain at the site after the proposed clearing and associated chalet development. Further, according to available databases, while the application area occurs within four to six kilometres of roost sites, the application area occurs approximately 27 kilometres from the closest confirmed breeding site for Carnaby's cockatoo. It is also noted that the application area itself is not likely to provide potential breeding habitat, given it is outside of the modelled breeding range for Carnaby's cockatoo (Commonwealth of Australia, 2012). Noting the presence of larger remnants of quality foraging habitat in the local area and within the greater property, the extent of foraging habitat proposed to be cleared, and that the application area is unlikely to be supporting foraging by breeding individuals, it is not considered likely that the loss of 1.7 hectares of foraging habitat within the application area will represent a significant impact to foraging habitat for Carnaby's cockatoos in the local area. The revegetation



proposed by the applicant will also include primary foraging species for Carnaby's cockatoo and is expected provide additional foraging habitat within the site in the future.

### **Peregrine falcon**

The peregrine falcon typically nests on rocky ledges in tall, vertical cliff faces and gorges, or in tall trees associated with drainage lines, and can hunt in a range of habitat types including timbered watercourses, riverine environments, wetlands, plains, open woodlands, and pylons and spires of buildings (DAWE, 2021). Given its woodland structure and vicinity to a non-perennial watercourse, the application area may provide suitable foraging habitat for the peregrine falcon, but lacks the habitat features typically associated with breeding habitat for the species. This was supported by the findings of a basic fauna survey undertaken by Emerge Associates in accordance with the *Technical guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020) over five days between 12 August and 28 October 2020 (Emerge Associates, 2020a). However, while it was considered that the habitat within the greater site may be suitable for peregrine falcon, no evidence of individuals was observed during the fauna survey (Emerge Associates, 2020a). Noting that the peregrine falcon is a highly mobile species with a large home range that does not rely on specialist niche habitats, the peregrine falcon is likely to be transient in the application area and it is unlikely that the application area represents significant habitat for the species. Further, noting that the application area is a disturbed remnant in a fragmented landscape and that larger intact remnants of native vegetation persist in the local area, it is unlikely that the peregrine falcon would be reliant on the application area for foraging resources.

### **Ground-dwelling fauna**

Chuditch are carnivorous marsupials (Dasyurids) that utilise a range of habitat types including forest, mallee shrublands, woodland and desert, with the densest populations associated with riparian jarrah forest (DEC, 2012a). Critical habitat for the species is characterised by adequate numbers of suitable den and refuge sites (e.g., horizontal hollow logs or earth burrows) and sufficient prey biomass (large invertebrates, reptiles, and small mammals) (DEC, 2012a). Chuditch are also capable of travelling long distances and have large home ranges of approximately 15 square kilometres for males and 3-4 square kilometres for females, thus requiring habitats that are of a suitable size and not excessively fragmented (DEC, 2012a). The fauna survey identified that the greater property may provide suitable habitat for chuditch, given its woodland structure and vicinity to non-perennial watercourses, but did not observe any evidence of individuals (Emerge Associates, 2020a). However, the application area consists of 1.7 hectares of degraded remnant vegetation in a mosaic of historically cleared paddocks and is unlikely to provide adequate numbers of den resources or continuous vegetation to support the home range of a chuditch or significant habitat resources. It is also acknowledged that larger remnants of native vegetation persist in the local area that are likely to provide more suitable habitat for chuditch, including within Yelverton National Park and Walburra Nature Reserve. Given the extent of the proposed clearing in the context of the site and local area and the condition and fragmentation of the vegetation, the application area is not considered likely to comprise significant habitat for chuditch. Noting that approximately 16.76 hectares of remnant vegetation adjacent to the application area and within the greater property will be retained and that the applicant has committed to undertaking slow, directional clearing and pre-clearing inspections for ground-dwelling fauna under their CMP (see Section 3.1), it is also not expected that direct impacts to individuals will result from the proposed clearing.

Quenda are ground-dwelling marsupials, typically associated with forest or woodlands near watercourses, where understorey consists of dense scrub and leaf litter is abundant (DEC, 2012c). Given the application area contains remnant marri and jarrah woodland, it is likely to contain suitable habitat for quenda. This is supported by the findings of the fauna survey, which identified that the habitat present within the application area and greater property may be suitable for use by quenda (Emerge Associates, 2020a). However, it is acknowledged that the application area comprises 1.7 hectares of degraded remnant vegetation in a mosaic of historically cleared paddocks and that native understorey is sparse and highly disturbed throughout the application area. It is therefore unlikely that the application area would provide sufficient understorey cover and leaf litter to comprise preferred habitat for the species. It is also acknowledged that no evidence of individuals was observed within the application area or greater property during the fauna survey (Emerge Associates, 2020a). Further, approximately 16.76 hectares of remnant vegetation adjacent to the application area and within the greater property will be retained and it is expected that individuals will be able to disperse into this vegetation at the time of clearing, given the application of slow, progressive directional clearing. The applicant has also committed to undertaking pre-clearing inspections for the presence of ground-dwelling fauna under their CMP (see Section 3.1), which is expected to mitigate any direct impacts to individuals. Given the extent of the proposed clearing in the context of the site and local area and the condition of the vegetation, the application area is not considered likely to comprise significant habitat for quenda.

### Arboreal fauna

The western false pipistrelle is a microbat known to inhabit wet karri sclerophyll forest or high rainfall zones of jarrah dry sclerophyll forest, as well as older tuart forest and adjacent woodlands (ALA, 2021). The species utilises hollow-bearing trees for roosting, diurnal refuge sites and breeding, usually in large colonies of up to 30 individuals (ALA, 2021). While the fauna survey identified five habitat trees with hollows of suitable size for black cockatoo species, it is acknowledged that an additional 29 habitat trees within the greater Lot 32 may contain smaller hollows suitable for use by the western false pipistrelle (Emerge Associates, 2020a). From the information provided in the fauna survey, the exact location of these additional habitat trees cannot be determined, and it is considered that the application area may contain habitat trees with small hollows of suitable size for use by the western false pipistrelle. The fauna survey also identified that the application area and greater site may provide suitable habitat for the western false pipistrelle, however no evidence of individuals was observed during the survey (Emerge Associates, 2020a). It is acknowledged that the proposed clearing will result in the loss of 76 habitat trees and that approximately 634 habitat trees are expected to remain within the property following the proposed works. It is also acknowledged that the application area comprises 1.7 hectares of degraded remnant vegetation in a mosaic of historically cleared paddocks and that larger patches of intact vegetation that are likely to provide more suitable habitat for the western false pipistrelle are present in the local area. Given the extent of the proposed clearing, the condition and fragmentation of the vegetation, and the extent of suitable habitat available in the greater property and local area, the application area is not considered likely to comprise significant habitat for the western false pipistrelle. Further, the applicant has committed to undertaking pre-clearing inspections of all habitat trees and hollows within the application area for the presence of fauna and has advised that clearing will be postponed until individuals have dispersed, where hollows are in use for roosting, or until any juveniles have left the nest, where hollows are in use for breeding (Emerge Associates, 2021a). Therefore, it is also not expected that the proposed clearing will result in direct impacts to individuals, should any be present at the time of clearing.

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, 2012b). As discussed above, the application area contains five habitat trees with hollows of suitable size for use by black cockatoo species and an additional 29 habitat trees that may contain smaller hollows suitable for use by the south-western brush-tailed phascogale. As the application area comprises marri-jarrah woodland and hollow-bearing trees, the application area may provide suitable habitat for the south-western brush-tailed phascogale. This is consistent with the findings of the fauna survey, which identified that the habitat present within the application area and greater property may be suitable for the south-western brush-tailed phascogale (Emerge Associates, 2020a). However, no evidence of individuals was observed during the fauna survey or in a subsequent targeted western ringtail possum assessment, which included nocturnal searches of the site (Emerge Associates, 2020a; Emerge Associates 2021d). Although the application area may provide suitable habitat for the south-western brush-tailed phascogale, it is acknowledged that the application area has been historically disturbed and that the canopy structure is patchy and largely separated from other remnants of suitable habitat in the local area by historically cleared paddocks. It is also acknowledged that larger remnants of intact vegetation are present in the local area, including Yelverton National Park and Leeuwin-Naturaliste National Park, which are likely to provide more suitable canopy structure and connectivity to habitat resources for the south-western brush-tailed phascogale. Given the extent of the proposed clearing in the context of the site and local area, the canopy structure of the application area, the findings of the fauna survey, and the condition and fragmentation of the vegetation, the application area is not considered likely to comprise significant habitat for the south-western brush-tailed phascogale. It is also not expected that direct impacts to individuals will result from the proposed clearing, noting that approximately 16.76 hectares of remnant vegetation adjacent to the application area and within the greater property will be retained and the applicant has committed to undertaking slow, directional clearing (Emerge Associates, 2021a). Further, the applicant has committed to inspecting all habitat trees and hollows within the application area prior to clearing and had advised that clearing will be postponed until individuals have dispersed, where hollows are in use for roosting, or until any juveniles have left the nest, where hollows are in use for breeding (Emerge Associates, 2021a).

The western ringtail possum is an arboreal foliovore, associated with long unburnt mature remnant peppermint (*Agonis flexuosa*) woodlands along the Swan Coastal Plain management zone from Mandurah to Augusta, characterised by high canopy cover and connectivity (DPAW, 2017). Throughout the range of the western ringtail possum, suitable habitat also includes marri and jarrah woodlands and other *Eucalyptus* dominated forests with appropriate canopy, that provide suitable foraging habitat and tree hollows for breeding and diurnal refuge (DPAW, 2017). As discussed above, the application area contains five habitat trees with hollows of suitable size for use by black cockatoo species and an additional 29 habitat trees that may contain smaller hollows suitable for use by the

western ringtail possum. As the application area comprises a canopy of marri and jarrah and may contain hollow-bearing trees, the application area may provide suitable habitat for the western ringtail possum.

The basic fauna survey identified that suitable habitat for the western ringtail possum was present within the application area and greater property and identified a single drey in vegetation in the western portion of the site, indicating that the property may support a population of western ringtail possums (Emerge Associates, 2020a). A subsequent targeted western ringtail possum assessment was undertaken for the property in accordance with the *Technical guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020) and the *Environment Protection and Biodiversity Conservation Act Survey Guidelines for Australia's Threatened Mammals* (DSEWPC, 2011). The targeted western ringtail possum assessment involved one diurnal survey comprising active searches for secondary evidence of western ringtail possums (e.g., scats and dreys) and two nocturnal surveys comprising spotlighting for western ringtail possums throughout the site, undertaken between 23 and 25 March 2021 (Emerge Associates, 2021d). The diurnal survey confirmed that the drey observed during the basic fauna survey was still present at the site, but no changes to the drey or recent evidence of use were noted, and no other secondary evidence of western ringtail possums was observed (Emerge Associates, 2021d). The nocturnal survey identified two individual western ringtail possums in the western portion of the site and one individual in the east, along the boundary of the property and the adjacent Lot 31 on Deposited Plan 46641 (Emerge Associates, 2021 d). Therefore, the abundance of western ringtail possums at the site was considered to be relatively low (Emerge Associates, 2021d). No individuals or secondary evidence of western ringtail possums was observed within the application area itself during either the diurnal or nocturnal surveys (Emerge Associates, 2021d). The targeted western ringtail possum assessment also noted that, while most of the survey area contains potential foraging, refuge and dispersal habitat for western ringtail possums, the highest habitat values for the species occur in the western portion of the site, where canopy connectivity is high and mid and understorey vegetation are dense, providing protection from predation (Emerge Associates, 2021d). The eastern portion of the site was considered to contain marginal and opportunistic habitat for western ringtail possums, given canopy is sparse and connectivity to other remnants of suitable habitat is minimal (Emerge Associates, 2021d). Multiple common brushtail possums (*Trichosurus vulpecula*) were observed during the nocturnal surveys and scats were identified in the eastern portion of the site during the diurnal survey (Emerge Associates, 2021d).

Given the findings of the fauna survey and targeted western ringtail possum assessment, it is considered possible that western ringtail possums are utilising the application area. Noting that the recovery plan for the species describes critical habitat for western ringtail possums as any habitat where the species occurs naturally (DPAW, 2017), the greater site may also be considered critical habitat for the species. However, common themes for critical habitat include high nutrient foliage availability for food, suitable structures for protection, and canopy continuity to escape predation and other threats (DPAW, 2017). It is acknowledged that the application area comprises 1.7 hectares of degraded vegetation that has been fragmented by historical clearing for pasture and includes a sparse canopy with limited connectivity throughout the remnant and to other remnants of native vegetation in the local area and may not represent the habitat resources typically associated with critical habitat. It is also acknowledged that the proposed clearing will result in the loss of 76 habitat trees and that approximately 634 habitat trees and 16.76 hectares of remnant vegetation adjacent to the application area and within the greater property will be retained, including higher quality western ringtail possum habitat in the western portion of the site. The recovery plan for the species also notes that western ringtail possum survivorship is negatively associated with high numbers of common brushtail possums, given this species is larger, more mobile, and more aggressive, and tend to out-compete western ringtail possums for habitat resources such as hollows (DPAW, 2017). Therefore, as common brushtail possums were observed at high rates during the survey, particularly in the eastern portion of the site, it is not considered likely that the application area would support high numbers of western ringtail possums. Given the above and the presence of larger, intact remnants of suitable habitat for western ringtail possums in the local area, it is not considered likely that the application area represents significant habitat for the western ringtail possums or that the proposed clearing represents a significant risk to the continuation of the species. However, as it is possible that western ringtail possums will be using the site at the time of the clearing, a condition will be applied to the permit requiring the inspection of all trees and hollows for individuals by a fauna specialist prior to clearing and the delay of clearing until any individuals identified have moved out of the clearing area or have been dispersed. Direct impacts to individuals will also be avoided through the application of a directional clearing condition, requiring slow, progressive clearing that allows individuals to move into adjacent vegetation, outside of the application area.

### **Ecological Linkage**

While no formal ecological linkages are mapped within the application area, it is acknowledged that the application area may contribute to the ecological linkage values of roadside vegetation along Tom Cullity Drive, given the

fragmentation of the landscape immediately surrounding the application area through historical clearing. It is also acknowledged that the proposed clearing may further fragment an existing remnant, by severing connectivity between retained vegetation in the centre of the application area and roadside vegetation along the length of Tom Cullity Drive, to allow for a loop network around the proposed vineyard areas. While it is recognised that the applicant has committed to revegetating a 0.605-hectare area along Tom Cullity Drive, it is not considered that the proposed revegetation will mitigate the loss of this connectivity, given the proposed revegetation area is not connected to the retained vegetation in the centre of the application area. However, it is acknowledged that the application area and adjacent vegetation to be retained is a degraded remnant in a mosaic of historically cleared paddocks and currently provides limited connectivity to the existing roadside vegetation and larger remnants of native vegetation in the local area. As discussed above, the application area is also unlikely to provide significant habitat for fauna and is unlikely to contribute significantly to the dispersal of fauna through the landscape. Therefore, it is unlikely that the application area is acting as a significant ecological linkage in the local area. It is also noted that, while the proposed clearing will reduce connectivity to retained vegetation in the centre of the application area, it will not sever any ecological linkages or reduce vegetation connectivity in the local area. Further, connectivity to other remnants within adjacent properties and the local area will be maintained along Tom Cullity Drive and will be enhanced through the proposed revegetation. Given the above, it is not considered likely that the proposed clearing will significantly impact ecological linkages or the migration of fauna in the local area.

#### Conclusion

Based on the above assessment, the proposed clearing will result in the loss of suitable habitat for several conservation significant fauna species. However, given the applicant's avoidance and mitigation measures, the condition of the vegetation and the extent of the proposed clearing in the context of the greater site and local area, the Delegated Officer determined that the vegetation within the application area is unlikely to represent significant breeding, roosting or foraging habitat for any conservation significant fauna species, and that the proposed clearing does not constitute a significant residual impact to fauna habitat.

For the reasons set out above, it is considered that the direct impacts of the proposed clearing on conservation significant fauna can be managed through the implementation of slow, progressive directional clearing and pre-clearing inspections for the presence of fauna.

The applicant may have notification responsibilities under the EPBC Act for impacts to Baudin's cockatoo, Carnaby's cockatoo, forest red-tailed black cockatoo, and western ringtail possum, and their habitats, as set out in the EPBC Act referral guidelines for three threatened black cockatoo species (Commonwealth of Australia, 2012) and the EPBC Act significant impact guidelines for the western ringtail possum (DEWHA, 2009). It is understood that the applicant has referred the project to the federal Department of Water, Agriculture and the Environment (DAWE), who are considering the project under EPBC 2020/8866.

#### Conditions

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

- Directional clearing, which requires slow, progressive, one directional clearing to allow terrestrial fauna to disperse ahead of the clearing activity should they occur on site at the time of clearing, and
- Fauna management (western ringtail possums), which requires the inspection of all trees and hollows for the presence of western ringtail possums prior to clearing and for clearing to cease where any individuals are identified until the individual has dispersed.

### **3.2.2. Biological values (flora) - Clearing Principles (a) and (c)**

#### Assessment

A review of available databases indicates that a total of 34 conservation significant flora species have been recorded within the local area (see Appendix C). These species were listed as threatened under the state BC Act and/or Commonwealth EPBC Act, or as Priority species by the Department of Biodiversity Conservation and Attractions (DBCAs). Based on the habitat preferences of the above species, their conservation statuses, the condition of the vegetation within the application area, adjacent land uses, and the distribution and extent of existing records, the application area was considered to provide suitable and potentially significant habitat for one conservation significant flora species: *Caladenia excelsa* (Endangered under both the BC Act and EPBC Act).

*Caladenia excelsa* (giant spider-orchid) is a tuberous perennial herb with green, white and red flowers, typically associated with low, dense shrubs in woodlands dominated by *Eucalyptus* sp., marri, peppermint, *Banksia* sp., and *Allocasuarina* sp. (sheoak), on hilltops, slopes, swales and low plains in deep yellow, white or grey sandy soils (Western Australian Herbarium, 1998-). The giant spider-orchid is known from a population size of 257 plants across 26 small, fragmented sub-populations (DEWHA, 2008). As the application area includes marri and jarrah woodland

within soil system consistent with existing records, the application area may provide suitable habitat for the giant spider-orchid. Given the giant spider-orchid is listed as threatened under both the state BC Act and Commonwealth EPBC Act and limited to small, fragmented populations, the presence of the species within the application area would be considered significant.

A targeted flora and vegetation survey was undertaken by an experienced botanist over five days between 12 August and 28 October 2020 (Emerge Associates, 2020b). The flora survey was undertaken in accordance with the *Technical guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016) and involved detailed sampling using a combination of three 10-metre squared quadrats and three relevés, including records of vegetation structure and condition, degree of disturbance, and species abundance and richness (Emerge Associates, 2020b). The flora survey did not identify any threatened flora species within the application area or the greater site and considered that threatened flora species were unlikely to occur given the degraded condition of the vegetation and lack of suitable habitat features (Emerge Associates, 2020b). One priority flora species, *Chordifex gracilior* (P3), was recorded and abundant in the western portion of the site but was not identified in the eastern portion or within the application area itself (Emerge Associates, 2020b). *Chordifex gracilior* is a rhizomatous perennial herb associated with peaty sand in swampy areas or winter wet flats (Western Australian Herbarium, 1998-). While a small portion of the application area is mapped within a palusvale (seasonally waterlogged valley) and may be seasonally wet, it is unlikely that the application area comprises the peaty sand typically associated with the species and there are no records of *Chordifex gracilior* within the mapped soil system of the application area. Nonetheless, *Chordifex gracilior* is known from 31 Western Australian Herbarium records from Busselton to Plantagenet (Western Australian Herbarium, 1998-) and appears to be locally abundant in the western portion of the site (Emerge Associates, 2020b). Given the habitat features of the application area and the distribution and extent of existing records, the application area is not considered likely to represent significant habitat for *Chordifex gracilior* and the proposed clearing is not considered likely to result in significant impacts to the conservation status of the species, should individuals be present within the application area.

Noting that the species considered likely to occur within the application area based on habitat preference are all perennial species and that the survey was appropriately timed and undertaken by an experienced botanist, it is considered that the flora survey would have identified any threatened and priority flora, should they have occurred within the application area. Although the application area may provide suitable habitat for the species, the giant spider-orchid is considered unlikely to occur within the application area, given the findings of the flora survey, the degraded condition of vegetation, and the lack of habitat features typically associated with significant habitat for the species such as hilltops, slopes and swales. Given the flora survey did not identify any threatened or priority flora species within the application area and noting the condition of the vegetation, the proposed clearing is not considered likely to have an impact on significant habitat for any conservation significant flora species.

#### Conclusion

Based on the above assessment, the proposed clearing is not considered likely to represent significant habitat for any threatened or priority flora species or to be critical for the continuation of these species. For the reasons set out above, it is considered that impacts to conservation significant flora species are unlikely to result from the proposed clearing and that this does not constitute a significant residual impact.

#### Conditions

No flora management conditions required.

### **3.2.3. Significant remnant vegetation - Clearing Principles (a) and (e)**

#### Assessment

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Although the current vegetation extent for the Warren IBRA Bioregion, the mapped Matiske vegetation complex Cowaramup, C2, and the local area are above 30 per cent, it is acknowledged that the mapped Matiske vegetation complex Cowaramup, Cw2 falls below the 30 per cent threshold and may be considered extensively cleared (see Appendix C.2). As the Cowaramup, Cw2 complex is described as woodland of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* on slopes (Matiske and Havel, 1998), it is likely that some of the vegetation within the application area is representative of the extensively cleared vegetation complex.

However, according to available databases, approximately 0.356 hectares of the application area is mapped within the Cowaramup, Cw2 complex and primarily consists of isolated paddock trees (Figure 5). Therefore, the proposed clearing will reduce the current extent of the Cowaramup, Cw2 complex by approximately 0.03 per cent. Given the application area has been highly degraded and fragmented from historical clearing for paddocks and lacks native mid- and understorey species, it is also unlikely that the mapped vegetation represents the typical woodland structure



associated with the Cowaramup, Cw2 complex. Further, while the application area may provide suitable habitat for conservation significant flora and fauna species, it is unlikely to contain significant habitat resources. It is also acknowledged that the applicant has committed to revegetating a 0.605-hectare area along Tom Cullity Drive using canopy species that are characteristic of the Cowaramup, Cw2 complex. Approximately 0.24 hectares of the revegetated area will overlap with the mapped complex. Given the extent of vegetation within the Cowaramup, Cw2 complex proposed to be cleared and the condition and fragmentation of the application area, the proposed clearing is not considered likely to significantly impact or reduce the extent of an extensively cleared vegetation complex.

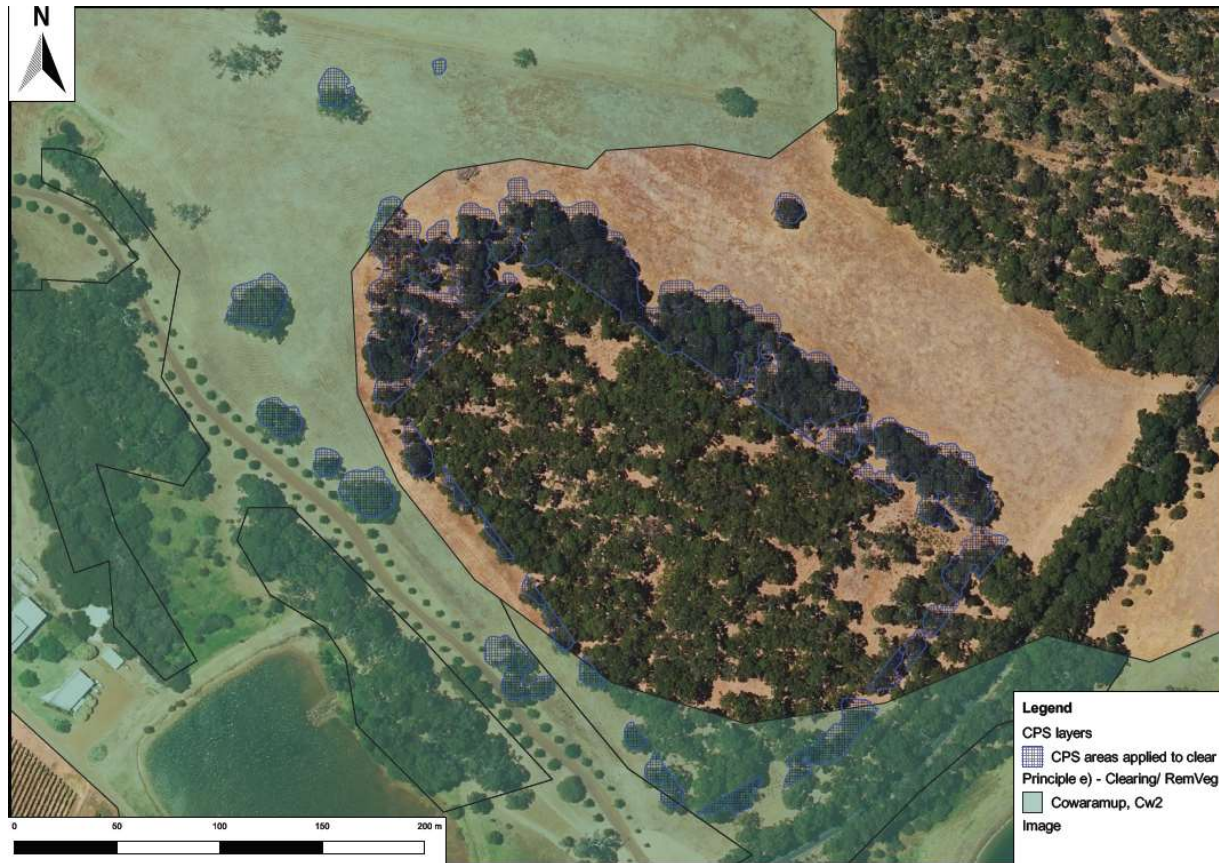


Figure 5. Intersection of application area (cross-hatched blue) and the mapped Mattiske vegetation complex Cowaramup, Cw2 (hatched green).

#### Conclusion

Based on the above assessment, the proposed clearing is not considered likely to result in impacts to significant remnant vegetation and does not constitute a significant residual impact.

#### Conditions

No vegetation management conditions required.

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

#### Assessment

As a portion of the application area is mapped within a palusvale and may be seasonally wet, the vegetation within the application area may be considered to be growing in, or in association with, an environment associated with a wetland. However, according to available databases, approximately 0.017 hectares of the application intersects the mapped wetland (Figure 6). It is also acknowledged that the palusvale has been highly modified through historical clearing for paddocks and road infrastructure, and that the application area itself is highly degraded and lacks characteristic riparian species as well as native mid- and understorey species. Therefore, it is unlikely that the vegetation within the application area is contributing significantly to the function of riparian communities or wetlands in the local area. Given the extent and location of the proposed clearing within the mapped wetland, the condition of the vegetation, and adjacent land uses, the proposed clearing is not considered likely to result in any significant or long-term impacts to the ecological values of the vegetation communities associated with the wetland mapped within the application area.

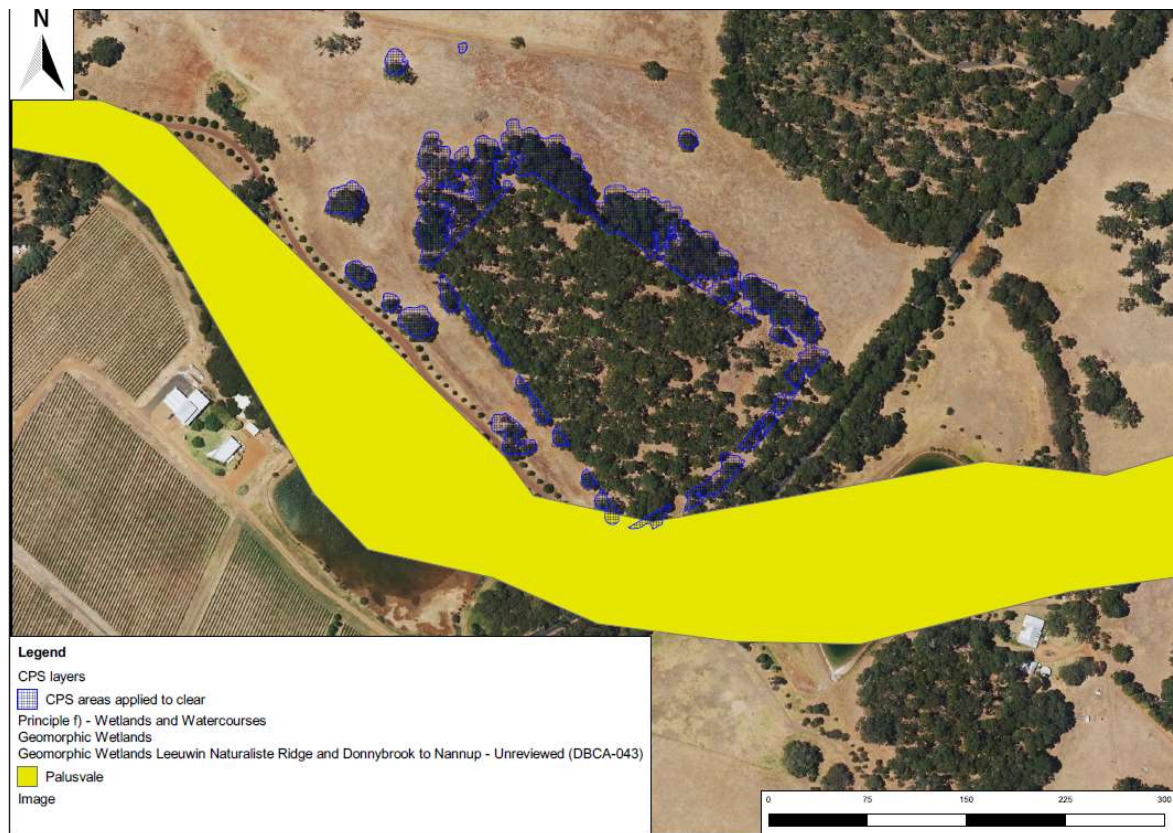


Figure 6. Intersection of application area (cross-hatched blue) and the mapped palusvale wetland (hatched yellow).

Noting that the mapped soil type within the application area is susceptible to land degradation resulting from wind erosion, waterlogging, and subsurface acidification, the proposed clearing has the potential facilitate land degradation. However, the proposed clearing will result in the loss of 1.7 hectares of disturbed vegetation in a mosaic of historically cleared paddocks that has been modified by adjacent land uses, including grazing and road infrastructure. It is also acknowledged that approximately 3.31 hectares of native vegetation will be retained in the centre of the application area and approximately 16.76 hectares of native vegetation will be retained across the property as a whole. The retained vegetation, paired with the proposed 0.605-hectares of revegetation along Tom Cullity Drive, are expected to provide a buffer for the impacts of waterlogging and subsurface acidification. Further, the application area will be utilised as a vineyard immediately following clearing and it is unlikely that the cleared area will be left exposed to weathering for long periods of time. The applicant has also advised that clearing will be undertaken during winter, when soils are damp and wind erosion is less likely, and additional mitigation measures including dust suppression and surface stabilisation will be employed where required to support planting in spring. Therefore, any impacts arising from wind erosion are considered likely to be localised and short-term. Given the extent and location of the proposed clearing in the context of the site and local area, and the condition of the vegetation, the proposed clearing is not considered likely to cause appreciable land degradation.

Given the flora and vegetation survey identified weed species within the application area (Emerge Associates, 2020b), it is acknowledged that the proposed clearing may cause degradation of adjacent and nearby remnant native vegetation by facilitating the spread of weeds and dieback. A weed and dieback management condition is considered to minimise this risk, and it is not considered likely that the proposed clearing will have a significant impact on adjacent remnant vegetation.

### Conclusion

Based on the above assessment, the proposed clearing is unlikely to result in significant impacts to the ecological values of vegetation communities associated with a watercourse or wetland, or to cause appreciable land degradation, but may facilitate the spread of weeds and dieback into adjacent retained vegetation in the local area, including an adjacent conservation area. For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed to be environmentally acceptable by taking steps to minimise the risk of the introduction and spread of weeds and dieback and does not constitute a significant residual impact.

### Conditions

To address the above impacts, the following management measure will be required as a condition on the clearing permit:

- Dieback and weed control, which ensures protocols are put in place to limit the introduction and transportation of dieback- and weed-affected materials.

### 3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on the Department of Water and Environmental Regulation's website on 29 March 2021, inviting submissions from the public within a 21-day period. Following the revision to the application area, the application was re-advertised on DWER's website on 17 May 2021, inviting submissions from the public within a 7-day period. Two submissions were received in relation to this application (see Appendix B).

The proposed action to develop part of Lot 32 Tom Cullity Drive, Wilyabrup, for viticultural and tourism purposes is currently being assessed separately by the Commonwealth Department of Agriculture, Water and the Environment (DAWE) under the EPBC Act (reference 2020/8866). On 8 February 2021, DAWE determined that the project is a controlled action that requires assessment and approval under the EPBC Act. DAWE is yet to finalise a decision on the referral. It is noted that the EPBC Act referral includes the vegetation within the application area, as well as vegetation that will be cleared for the construction and operation of short-stay accommodation in the form of up to six chalets that may be subject to an exemption under the Clearing Regulations.

The City of Busselton (the City) advised DWER that the vegetation within the application area consists of jarrah-marri woodland on gravelly slopes that comprises prime viticultural land (City of Busselton, 2021). Lot 32 on Deposited Plan 46641 is zoned as Viticulture/tourism under Local Planning Scheme 21 and therefore, the purpose of the proposed clearing is consistent with the City's Local Planning Scheme. The City recommended that, should DWER's assessment determine the proposed clearing to be environmentally acceptable, revegetation along the Tom Cullity Drive boundary or northern boundary of the property should be conditioned to mitigate the loss of the vegetation (City of Busselton, 2021).

The application area occurs within the Cape-to-Cape North Surface Water Area and the Busselton-Capel Groundwater Area subject to water licensing requirements under the *Rights in Water and Irrigation Act 1914* (RIWI Act). DWER's Regional Delivery - Geographe Capes District (Geographe Capes District) advised that, at the time of submitting the clearing permit application, the applicant held a Surface Water licence under the RIWI Act to take 12,500 kilolitres per annum from the Wilyabrup Brook surface water resource for the purposes of horticulture, which is valid to November 2030 (DWER, 2021). During the assessment of CPS 9224/1, the applicant applied for additional licenses under the RIWI Act to facilitate the expansion of an on-stream dam in the centre of the property (DWER, 2021). The applicant advised that the additional water allocation was required to facilitate irrigation of the expanded vineyards in the event that extreme weather events were experienced in the first five years following establishment, to allow additional watering during hot weather and reduce vine mortality (Emerge Associates, 2021e). The Geographe Capes District advised that the additional licenses have been granted and are active until August 2031, with total allocation at the property being 16,800 kilolitres of surface water per annum and 3,000 kilolitres of groundwater per annum (DWER, 2021). The Geographe Capes District did not express any concerns regarding the proposed clearing (DWER, 2021).

Two historical clearing permits, CPS 354/1 and CPS 2267/1, have been approved for the area under application. Clearing Permit CPS 354/1 was granted to Foxland Investments Pty Ltd Trading as Arlewood Estate Pty Ltd on 25 June 2005 and allowed for the clearing of up to 13.5 hectares of native vegetation within Lot 2 on Diagram 34843 (now Lots 30, 31 and 32 on Deposited Plan 46641). Clearing Permit CPS 354/1 expired on 2 July 2007 and a review of current and historical aerial imagery implies that minimal clearing within the application area was undertaken under the permit. Clearing Permit CPS 2267/1 was granted to Mendosa Holdings Pty Ltd on 6 March 2008 and allowed for the clearing of up to 5 hectares of native vegetation within Lot 32 on Deposited Plan 46641. Clearing Permit CPS 2267/1 expired on 5 April 2010 and a review of current and historical aerial imagery implies that minimal clearing within the application area was undertaken under the permit. Under the conditions of Clearing Permit CPS 2267/1, the permit holder was required to revegetate two areas within Lot 32 on Deposited Plan 46641, including a portion of the area that is proposed to be revegetated under CPS 9224/1. However, DWER understands that the revegetation was not completed, as no clearing was undertaken under the permit.

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

Summary of comments	Consideration of comment
<p>The applicant provided the following additional supporting information on 10 May 2021:</p> <ul style="list-style-type: none"> <li>• Additional avoidance, minimisation and mitigation measures, including a reduction in the proposed clearing area, and</li> <li>• Submission of a targeted western ringtail possum assessment report and spatial data (Emerge Associates, 2021c; Emerge Associates, 2021d).</li> </ul>	<p>The additional supporting information provided was considered as follows:</p> <ul style="list-style-type: none"> <li>• The avoidance, mitigation and management measures proposed by the applicant were considered in <i>Avoidance and mitigation measures</i> (see Section 3.1), and</li> <li>• The targeted western ringtail possum assessment was considered in the detailed assessment of impacts to biological values (see Section 3.2.1).</li> </ul>
<p>The applicant provided the following additional supporting information on 6 August 2021:</p> <ul style="list-style-type: none"> <li>• Submission of the Construction Management Plan (CMP) for the project (Emerge Associates, 2021a), and</li> <li>• Submission of the Revegetation Plan for the project (Emerge Associates, 2021b).</li> </ul>	<p>The additional supporting information including the provisions of the CMP and Revegetation Plan proposed by the applicant were considered in <i>Avoidance and mitigation measures</i> (see Section 3.1).</p>
<p>The applicant provided additional information regarding the location of the proposed revegetation area on 10 August 2021 (Emerge Associates, 2021c).</p>	<p>The additional supporting information provided was considered in <i>Avoidance and mitigation measures</i> (see Section 3.1).</p>

## Appendix B. Details of public submissions

Two public submissions were received in relation to the proposed clearing (Submissions, 2021). As the submissions raised similar concerns, the comments have been combined to provide a streamlined response.

Summary of comments	Consideration of comment
<p>The loss of remnant vegetation represents a significant risk to threatened species including three threatened black cockatoo species and western ringtail possums. Numbers of black cockatoo species have declined 35 per cent over the last 10 years and the clearing of additional foraging and nesting habitat is not acceptable (Submissions, 2021).</p>	<p>The potential for impacts to threatened fauna species including black cockatoo species and western ringtail possums were considered under the <i>Assessment of impacts on environmental values</i> (see Section 3.2).</p>
<p>The benefits of the proposed revegetation will not be immediate, and it will take years for any offset to replicate the well-established woodland proposed to be cleared (Submissions, 2021).</p>	<p>DWER acknowledges that revegetation may take years to establish and replicate the habitat values of remnant native vegetation. DWER notes that the revegetation proposed by the applicant has been considered as a mitigation measure and is not considered to directly offset the loss of native vegetation within the application area, as considered under <i>Avoidance and mitigation measures</i> (see Section 3.1) and in the <i>Assessment of impacts on environmental values</i> (see Section 3.2).</p>
<p>The proposed clearing area has been degraded from historical grazing of livestock and failure to maintain the remnant vegetation on the property. It does not seem appropriate that a landholder can facilitate the degradation of vegetation and then use this as</p>	<p>Under s51A of the EP Act, “clearing” is defined as the killing or destruction of, the severing/ringbarking of, or the doing of substantial damage to some or all of the native vegetation in an area. DWER considers any direct or indirect activity that meets this definition as “clearing” for the purposes of Part V Division 2 of the</p>

Summary of comments	Consideration of comment
<p>reasoning as to why it should be allowed to be cleared (Submissions, 2021).</p>	<p>EP Act. Therefore, if the grazing of livestock or associated activities will result in the killing or destruction of, or the doing to substantial damage to, native vegetation, the landholder would need to undertake this activity under either a valid clearing permit or an exemption from the requirements of a clearing permit, in accordance with the EP Act and Clearing Regulations. DWER considers that a landholder would require a clearing permit to cause substantial damage to native vegetation in the first instance and therefore, cannot facilitate significant degradation of vegetation and then use this as justification for the issuing of a clearing permit.</p> <p>DWER also notes that two historical clearing permits have been granted for the area under application, held by previous landholders. DWER acknowledges that some degradation of the vegetation under application may have resulted from activities relating to these permits. The details of these historical clearing permits were considered under <i>Relevant planning instruments and other matters</i> (see Section 3.3).</p>
<p>The supporting documentation indicates that the landholder is considering building chalets, but no application has been submitted to the City of Busselton (the City) for the development. Without knowledge of the location of the proposed chalets, it cannot be assessed how this may affect the remaining bushland, particularly if the City requires extensive fire protection around the chalets (Submissions, 2021).</p>	<p>During the assessment of the application, the applicant provided additional information regarding the disturbance envelopes of the proposed chalets (Emerge Associates, 2021a; Emerge Associates, 2021d). Although the clearing required for the chalets may be subject to an exemption pursuant to the Clearing Regulations, DWER considered the potential for cumulative impacts resulting from this future clearing under <i>Avoidance and mitigation measures</i> (see Section 3.1) and in the <i>Assessment of impacts on environmental values</i> (see Section 3.2).</p>
<p>The supporting documentation for the application implies that the proposed clearing will result in little residual impact because of the areas of existing vegetation within the site and broader area. This implication relies on the fact that neighbouring landholdings contain remnant vegetation of similar habitat values and that these remnants will be retained long-term. If this clearing permit application is approved, it may set a precedent and property owners in the broader area may also apply for and be granted clearing permits, resulting in the loss of remnant vegetation on neighbouring properties that is proposed to mitigate the impacts of this application (Submissions, 2021).</p>	<p>According to DWER records, there is one other clearing permit application currently under assessment and 10 active clearing permits in the local area. The total area of proposed clearing under these applications is 15.3 hectares of native vegetation, which comprises approximately 0.13 per cent of all native vegetation remaining in the local area. According to available records, there is no indication that extensive clearing will occur in the local area in the near future.</p> <p>DWER also notes that any subsequent clearing of native vegetation in the local area would require assessment under the EP Act, given it is not subject to an exemption pursuant to the Clearing Regulations or Schedule 6 of the EP Act. DWER considers that each subsequent application in the local area will be assessed on its merits, taking into account the cumulative impacts of past clearing in the region. DWER does not consider it appropriate to hold applicants accountable for potential future clearing in the absence of an application or referral to the Department.</p>

## Appendix C. Site characteristics

### C.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of a 6.2-hectare isolated patch of native vegetation and several scattered trees and shrubs in the intensive land use zone of Western Australia. It is surrounded by historically cleared paddocks to the north, east and south-west, and is adjacent to Tom Cullity Drive road reserve to the south-east. The proposed clearing area provides some linkage values along Tom Cullity Drive but is largely isolated within a landscape of fragmented remnant vegetation. Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 39.3 per cent of the original native vegetation cover (see Appendix C.2).
Ecological linkage	<p>The application area does not form part of any formal mapped or conceptual ecological linkage.</p> <p>However, the application area is adjacent to vegetation surveyed as part of the Roadside Conservation Committee's (RCC's) roadside conservation value mapping program, which was undertaken by the RCC in 2009. The surveyed vegetation, which runs along the length of Tom Cullity Drive, was given a conservation value of 5, described as medium- low conservation value roadsides characterised by disturbed natural structure, extent of vegetation between 20 and 80 per cent, medium to low diversity of flora (between 0 and five species), weeds comprising between 20 and 80 per cent of total plants, and medium to low value as a biological corridor (RCC, 2009). Given the fragmented nature of the landscape, it is considered that the application area may contribute to the ecological linkage values of roadside vegetation along Tom Cullity Drive.</p>
Conservation areas	The closest conservation area is Yelverton National Park which occurs approximately 4.5 kilometres north-east of the application area, separated by previously cleared land and road infrastructure.
Vegetation description	<p>A flora and vegetation survey undertaken by Emerge Associates (2020b) indicates the vegetation within the proposed clearing area consists of two plant communities:</p> <ul style="list-style-type: none"> <li>• CcEM, described as open forest of marri (<i>Corymbia calophylla</i>) and jarrah (<i>Eucalyptus marginata</i>) over sparse native shrubland over sparse native and non-native forb-land over non-native grassland, and</li> <li>• Non-native, described as heavily disturbed areas dominated by non-native grasses and herbs and planted vegetation with occasional native trees, shrubs and herbs (Emerge Associates, 2020b).</li> </ul> <p>Representative photos and the full survey mapping are available in Appendix F.</p> <p>This is broadly consistent with the mapped South West Forest vegetation types:</p> <ul style="list-style-type: none"> <li>• Cowaramup, C2, which is described as open forest of <i>Eucalyptus marginata</i> subsp. <i>marginata-Corymbia calophylla-Banksia grandis</i> on lateritic uplands in perhumid and humid zones, and</li> <li>• Cowaramup, Cw2, which is described as woodland of <i>Eucalyptus marginata</i> subsp. <i>marginata-Corymbia calophylla</i> on slopes and low woodland of <i>Melaleuca preissiana-Banksia littoralis</i> on depressions in perhumid and humid zones (Mattiske and Havel, 1998).</li> </ul>
Vegetation condition	A flora and vegetation survey undertaken by Emerge Associates (2020b) indicates the vegetation within the proposed clearing area is in Good to Completely Degraded (Keighery, 1994) condition, described as:

Characteristic	Details
	<ul style="list-style-type: none"> <li>• Good: Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it, and</li> <li>• 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 (Keighery, 1994).</li> </ul> <p>The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos and the full survey mapping are available in Appendix F.</p>
Climate and landform	<p>The application area occurs on slightly undulating topography, with the elevation of the site ranging from 114 metres in relation to the Australian height datum (mAHD) on the eastern side of the application area to 110 mAHD in the western area.</p> <p>The application area experiences a Mediterranean climate with an annual mean maximum temperature of 21.4°C and an annual mean minimum temperature of 12.7°C. The mean annual rainfall is approximately 1100 millimetres, and the annual evapotranspiration rate is 800 millimetres.</p>
Soil description and land degradation risk	<p>The soil is mapped within the following subsystems:</p> <ul style="list-style-type: none"> <li>• Cowaramup ironstone rises Phase (216CoCOi), described as flats and gentle slopes (0-5 per cent gradient) with some laterite outcrop and shallow gravelly sands over laterite, which makes up approximately 69 per cent of mapped soils within the application area,</li> <li>• Cowaramup vales Phase (216CoCOv), described as small, narrow V-shaped drainage depression with gravelly duplex (Forest Grove) soils, which makes up approximately 11 per cent of mapped soils within the application area,</li> <li>• Cowaramup wet vales Phase (216CoCOvw), described as small, broad U-shaped drainage depressions with swampy floors and gravelly duplex (Forest Grove) soils on side-slopes and poorly drained alluvial soils on valley floor, which makes up approximately 10 per cent of mapped soils within the application area, and</li> <li>• Cowaramup flats Phase (216CoCO1), described as flats (0-2 per cent gradient) with gravelly duplex (Forest Grove) and pale grey mottled (Mungite) soils, which makes up approximately 10 per cent of mapped soils within the application area (DPIRD, 2021).</li> </ul> <p>The soil types above are mapped as having a low risk of land degradation resulting from water erosion, salinity, flooding, and phosphorus export (Schoknecht et al., 2004). The soil types may have a moderate to high risk of land degradation resulting from wind erosion, waterlogging, and subsurface acidification (Schoknecht et al., 2004).</p>
Waterbodies and hydrogeography	<p>The desktop assessment and aerial imagery indicates that approximately 0.017 hectares in the south-western corner of the application area intersects a palusvale (seasonally waterlogged valley) mapped under the Geomorphic Wetlands Leeuwin Naturaliste Ridge and Donnybrook to Nannup dataset. It is noted that the Geomorphic Wetlands Leeuwin Naturaliste Ridge and Donnybrook to Nannup is a preliminary dataset and is yet to be reviewed by the Wetlands Status technical working group.</p> <p>The closest watercourse is a non-perennial tributary of the Wilyabrup Brook, located approximately 50 metres south of the application area, separated from the application area by previously cleared paddock and Tom Cullity Drive. Several man-made earth dams constructed in association with this non-perennial tributary also occur within 100 metres of the application area.</p> <p>The application area is mapped within the Cape to Cape North Surface Water Area and the Busselton-Capel Groundwater Area proclaimed under the <i>Rights in Water and</i></p>



Characteristic	Details
	<p><i>Irrigation Act 1914</i> (the RIWI Act). The application area does not transect any water resources proclaimed under either the <i>Metropolitan Water Supply Sewerage and Drainage Act 1909</i> or <i>Country Areas Water Supply Act 1947</i> (CAWS Act).</p>
Flora	<p>The desktop assessment identified that a total of 34 rare flora species have been recorded within the local area, comprising one Priority 1 (P1) flora, six Priority 2 (P2) flora, 18 Priority 3 (P3) flora, eight Priority 4 (P4) flora, and one threatened flora (Western Australian Herbarium, 1998-). None of these existing records occur within the application area, with the closest record being an occurrence of <i>Acacia inops</i> (P3) approximately 2.5 kilometres from the application area.</p> <p>With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1.), the habitat preferences of the aforementioned species, the distribution and extent of existing records, and biological survey information (Emerge Associates, 2020b), the application area may provide suitable habitat for one threatened flora species and impacts to these species required further consideration (see Appendix C.3).</p>
Ecological communities	<p>The desktop assessment identified that the closest state-listed threatened ecological community (TEC) is an occurrence of the <i>Corymbia calophylla</i> woodlands on heavy soils of the southern Swan Coastal Plain (floristic community type 1b as originally described in Gibson et al. (1994)) TEC, located approximately 13.2 kilometres north-east of the application area.</p> <p>The closest state-listed priority ecological communities (PECs) include an occurrence of the Shrublands of near permanent wetlands in creeklines of the Whicher Scarp (Whicher Scarp community G2) PEC, approximately 5.7 kilometres from the application area, separated by previously cleared land and road infrastructure.</p>
Fauna	<p>The desktop assessment identified that a total of 36 threatened or priority fauna species have been recorded within the local area, including 21 threatened fauna species, five priority fauna species, eight fauna species protected under international agreement, and two other specially protected fauna species (DBCA, 2007-). None of these existing records occur within the application area, with the closest record being an occurrence of the Dunsborough burrowing crayfish (<i>Engaewa reducta</i>), approximately 0.8 kilometres from the application area.</p> <p>With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1.), the habitat preferences of the aforementioned species, and biological survey information (Emerge Associates, 2020a), the application area may provide suitable habitat for nine conservation significant fauna species and impacts to these species required further consideration (see Appendix C.4).</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	833,985.56	659,432.21	79.07	558,485.38	66.97
Vegetation complex					
Mattiske vegetation complex Cowaramup, C2*	13,692.45	4,442.60	32.45	863.08	6.3
Mattiske vegetation complex Cowaramup, Cw2**	6,654.67	1,352.26	20.32	245.24	3.69
Local area					
10-kilometre radius	28,996.67	11,400.21	39.32	-	-

\*Government of Western Australia (2019a)

\*\*Government of Western Australia (2019b)

## C.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and biological survey information (Emerge Associates, 2020b), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Caladenia excelsa</i>	EN	N	Y	Y	4.7	10	Y

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

## C.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and biological survey information (Emerge Associates, 2020a), impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Calyptorhynchus banksii naso</i> (Forest red-tailed black cockatoo)	VU	Y	Y	3.3	8	Y
<i>Calyptorhynchus baudinii</i> (Baudin's cockatoo)	EN	Y	Y	0.9	40	Y
<i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo)	EN	Y	Y	2.4	42	Y
<i>Dasyurus geoffroii</i> (Chuditch)	VU	Y	Y	5.3	2	Y

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Falco peregrinus</i> (Peregrine falcon)	OS	Y	Y	6.1	2	Y
<i>Falsistrellus mackenziei</i> (Western false pipistrelle)	P4	Y	Y	8.6	1	Y
<i>Isoodon fusciventer</i> (Quenda)	P4	Y	Y	1.2	75	Y
<i>Phascogale tapoatafa wambenger</i> (South-western brush-tailed phascogale)	CD	Y	Y	3.9	53	Y
<i>Pseudocheirus occidentalis</i> (Western ringtail possum)	CR	Y	Y	2.3	100	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, CD: Species of special conservation interest (conservation dependent fauna); OS: Other specially protected fauna.

## 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><b>Principle (a):</b> “Native vegetation should not be cleared if it comprises a high level of biodiversity.”</p> <p><b>Assessment:</b> The area proposed to be cleared contains degraded marri-jarrah woodland but may contain suitable habitat for regionally significant flora and fauna species and locally significant vegetation.</p>	Not likely to be at variance	Yes <i>Refer to Sections 3.2.1, 3.2.2, and 3.2.3, above.</i>
<p><b>Principle (b):</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.”</p> <p><b>Assessment:</b> The area proposed to be cleared contains potential foraging, roosting, and breeding habitat for conservation significant fauna.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><b>Principle (c):</b> “Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</p> <p><b>Assessment:</b> The area proposed to be cleared may contain suitable habitat for one flora species listed under the BC Act.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><b>Principle (d):</b> “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.”</p> <p><b>Assessment:</b> The area proposed to be cleared comprises degraded marri-jarrah woodland and does not contain species that can indicate a threatened ecological community (TEC). Given the distance and separation from mapped communities, the proposed clearing is not expected to comprise the whole or a part of, or be necessary for the maintenance of, any TEC listed under the BC Act.</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><b>Principle (e):</b> “Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</p> <p><b>Assessment:</b> The extent of one of the mapped vegetation types is inconsistent with the national objectives and targets for biodiversity</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.3, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area but may contribute to linkage values in a fragmented landscape.		
<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> Given the distance and separation from the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of any nearby conservation areas.</p>	Not likely to be at variance	No
<b>Environmental value: land and water resources</b>		
<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> Given the application area is mapped within a palusvale that may be seasonally wet and occurs within 50 metres of a mapped non-perennial watercourse, the application area may be considered to be growing in, or in association with, an environment associated with a wetland or watercourse.</p>	May be at variance	Yes <i>Refer to Section 3.2.4, above.</i>
<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> The mapped soils are not susceptible to water erosion, salinity, flooding, or phosphorus export, but have a high risk of land degradation resulting from wind erosion, waterlogging, and subsurface acidification.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.4, above.</i>
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>Given the application area is mapped within a palusvale that may be seasonally wet and occurs within 50 metres of a mapped non-perennial watercourse, the proposed clearing has the potential to impact surface water quality. However, given the presence of water within the application area is likely to be seasonal and noting the extent of the proposed clearing within the vicinity of water resources, any impacts to surface water resulting from the proposed clearing are likely to be minor, localised and short-term. Given the above and the condition of the vegetation proposed to be cleared, it is not considered likely that the proposed clearing will result in significant or long-term deterioration in the quality of surface or underground water.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u> Although the application area is mapped within a palusvale that may be seasonally wet, the mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p>	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. Biological survey information excerpts

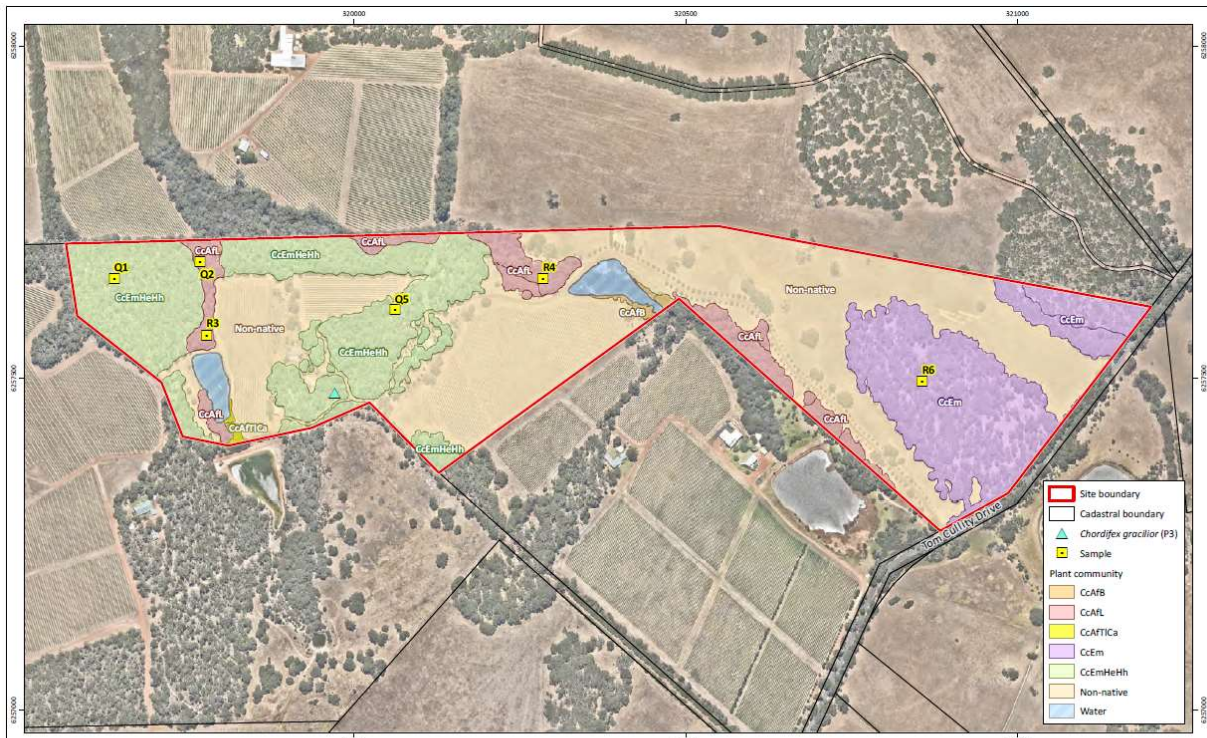


Figure 7. Representative photograph of vegetation community CcEM within the application area in Good (Keighery, 1994) condition (Emerge Associates, 2020b).



Figure 8. Representative photograph of non-native vegetation community within the application area in Completely Degraded (Keighery, 1994) condition (Emerge Associates, 2020b).





**Figure 3: Plant Communities and Priority Flora**

Plan Number: EP20-088(01)-F19  
 Drawn: GAR  
 Date: 01/10/2020  
 Checked: RAW  
 Approved: KK  
 Date: 16/12/2020

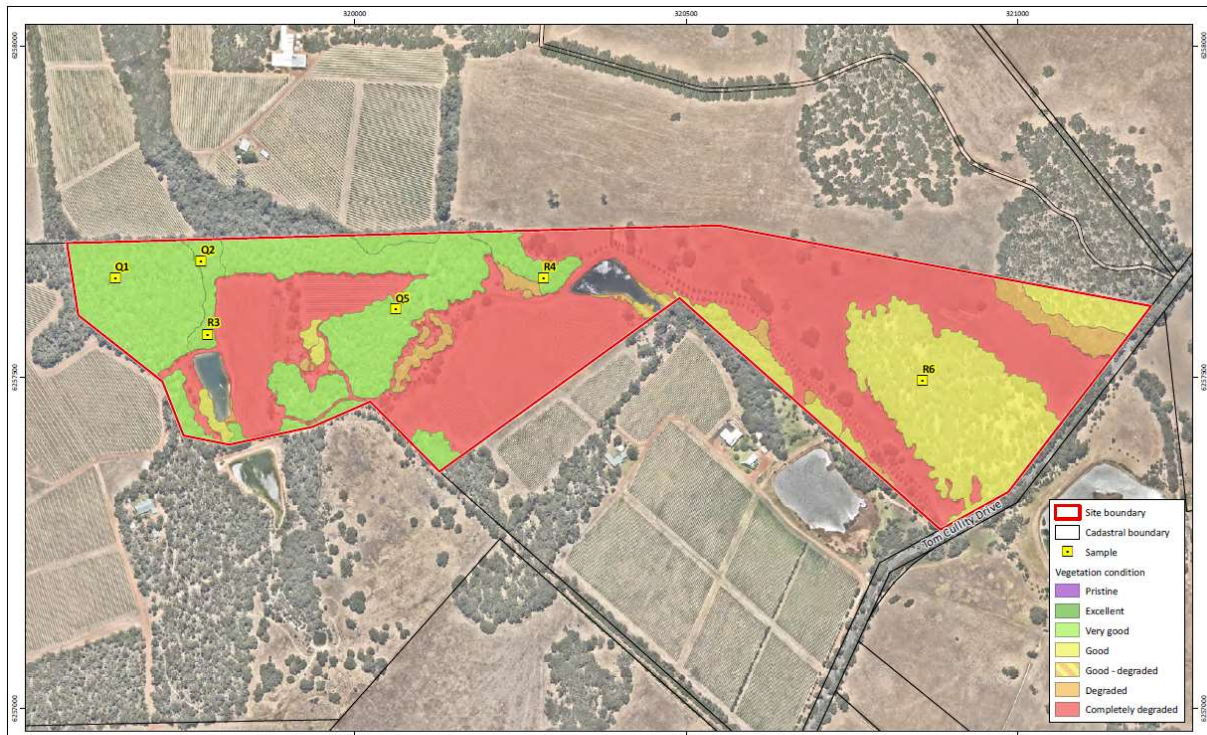
Project: Detailed Flora and Vegetation Survey  
 Lot 32 (No.325) Tom Cully Drive, Wiyabrup  
 Montague VY No. 1 Pty Ltd ATF Montague Trust

Client: Montague VY No. 1 Pty Ltd ATF Montague Trust

Scale: 1:6,500@A4  
 GDA 1994 MGA Zone 50

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Figure 9. Vegetation community mapping and location of priority flora within Lot 32 on Deposited Plan 46641 (Emerge Associates, 2020b).



**Figure 4: Vegetation Condition**

Plan Number: EP20-088(01)-F20  
 Drawn: GAR  
 Date: 01/10/2020  
 Checked: RAW  
 Approved: KK  
 Date: 16/12/2020

Project: Detailed Flora and Vegetation Survey  
 Lot 32 (No.325) Tom Cully Drive, Wiyabrup  
 Montague VY No. 1 Pty Ltd ATF Montague Trust

Client: Montague VY No. 1 Pty Ltd ATF Montague Trust

Scale: 1:6,500@A4  
 GDA 1994 MGA Zone 50

emerge ASSOCIATES

Figure 10. Vegetation condition mapping within Lot 32 on Deposited Plan 46641 (Emerge Associates, 2020b).



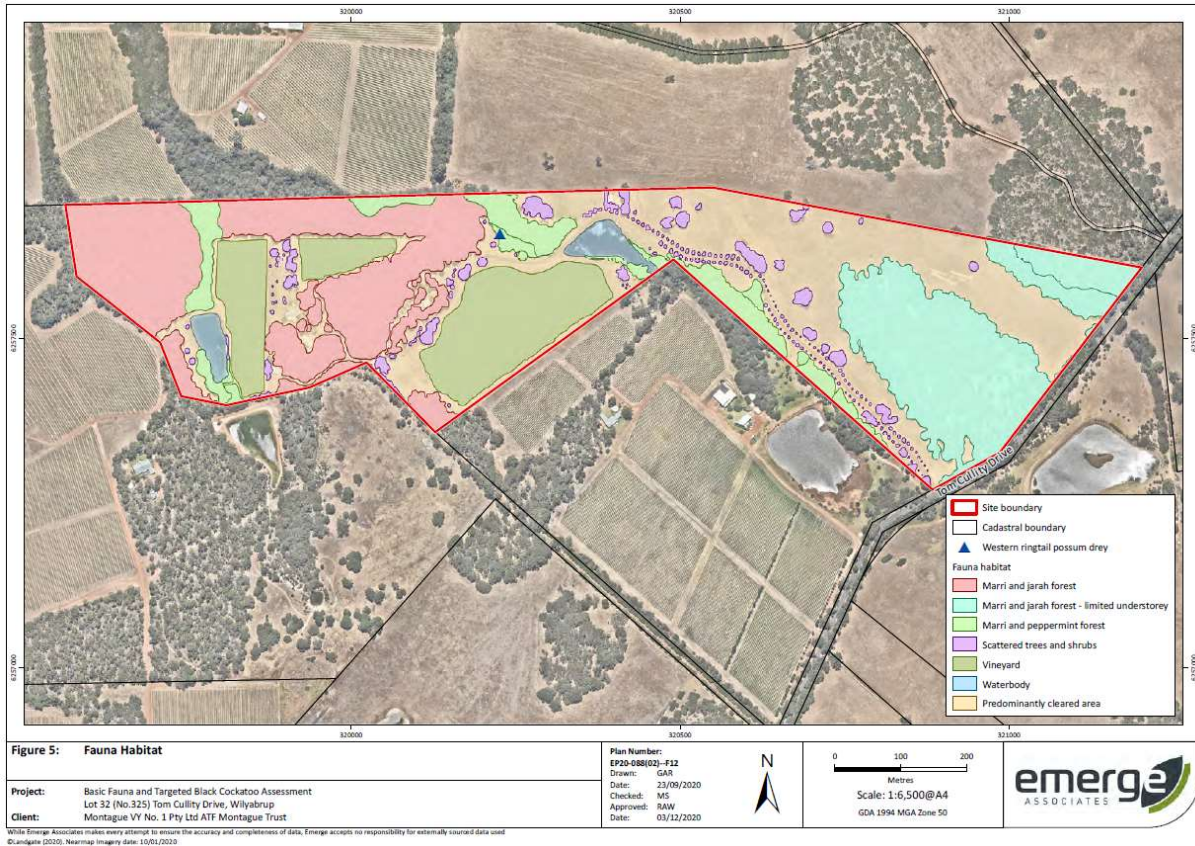


Figure 11. Fauna habitat mapping within Lot 32 on Deposited Plan 46641 (Emerge Associates, 2020a).

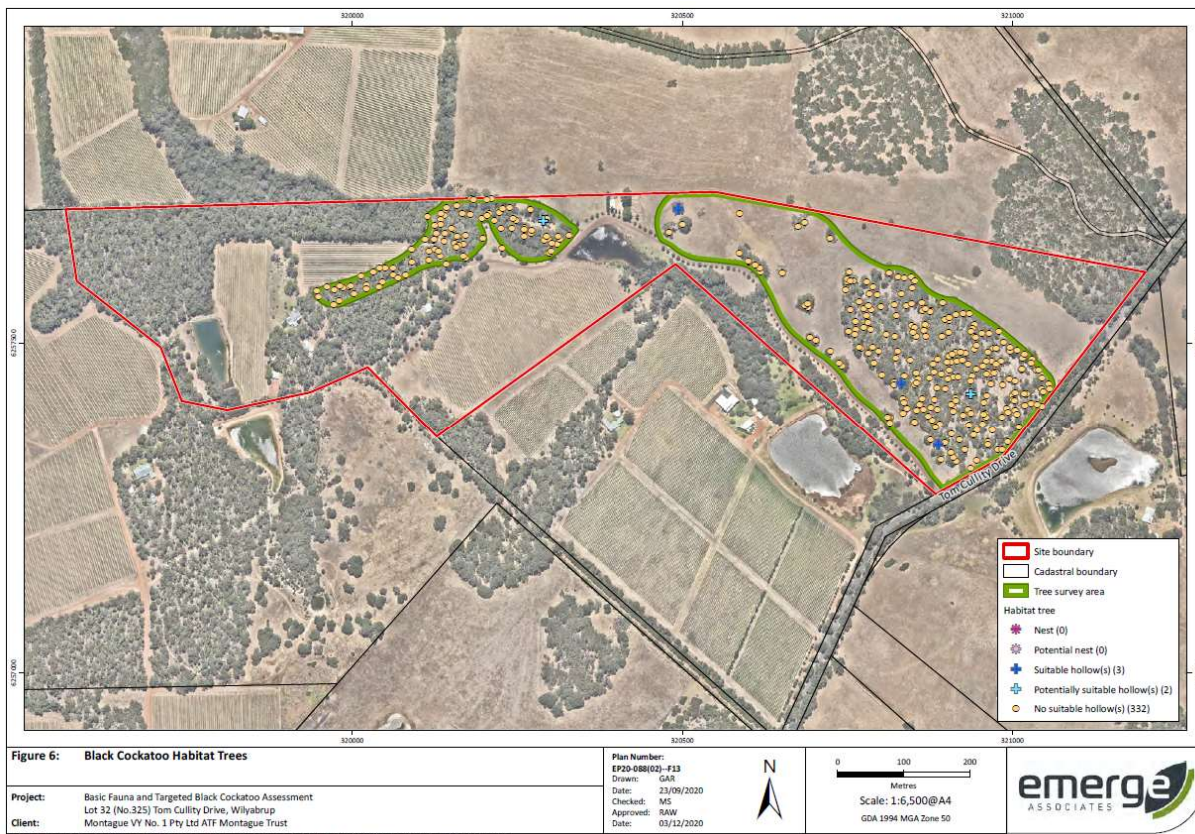


Figure 12. Location of black cockatoo habitat trees within Lot 32 on Deposited Plan 46641 (Emerge Associates, 2020a).



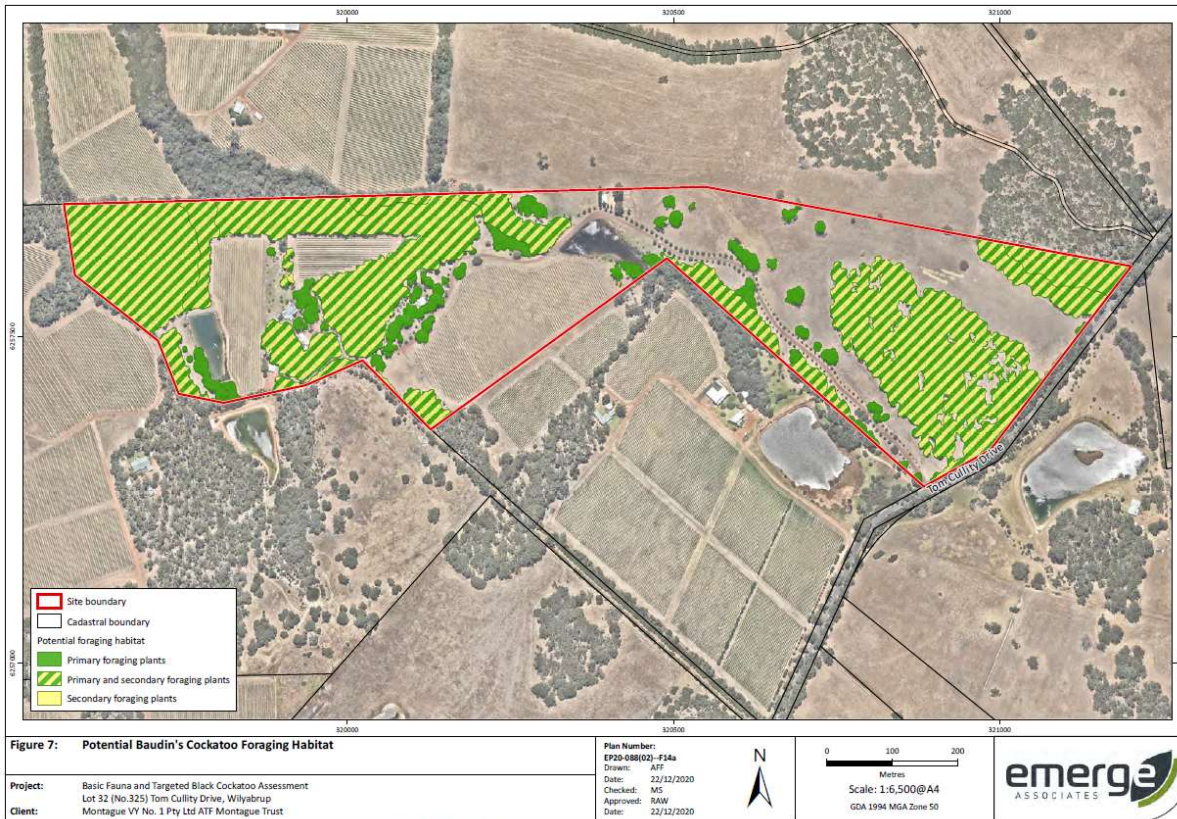


Figure 13. Mapped potential primary and secondary foraging habitat for Baudin's cockatoo within Lot 32 on Deposited Plan 46641 (Emerge Associates, 2020a).

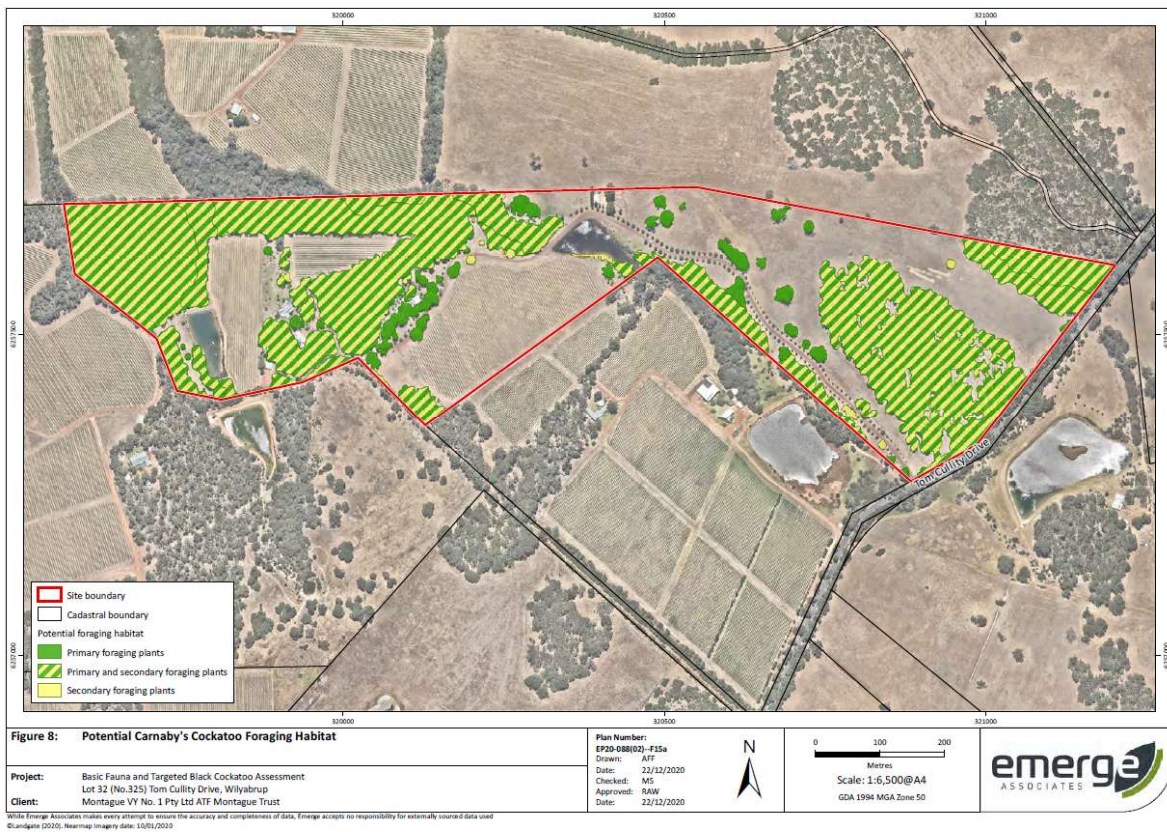


Figure 14. Mapped potential primary and secondary foraging habitat for Carnaby's cockatoo within Lot 32 on Deposited Plan 46641 (Emerge Associates, 2020a).



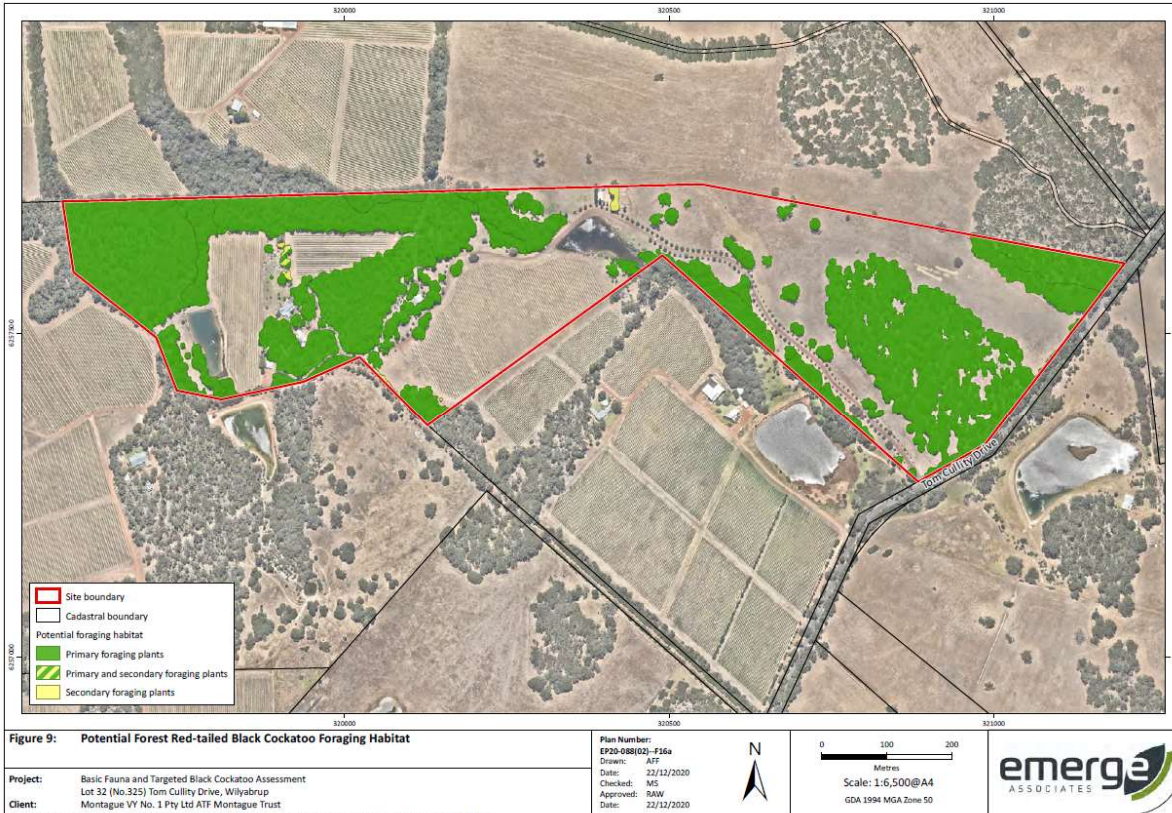


Figure 15. Mapped potential primary and secondary foraging habitat for forest red-tailed black cockatoo within Lot 32 on Deposited Plan 46641 (Emerge Associates, 2020a).

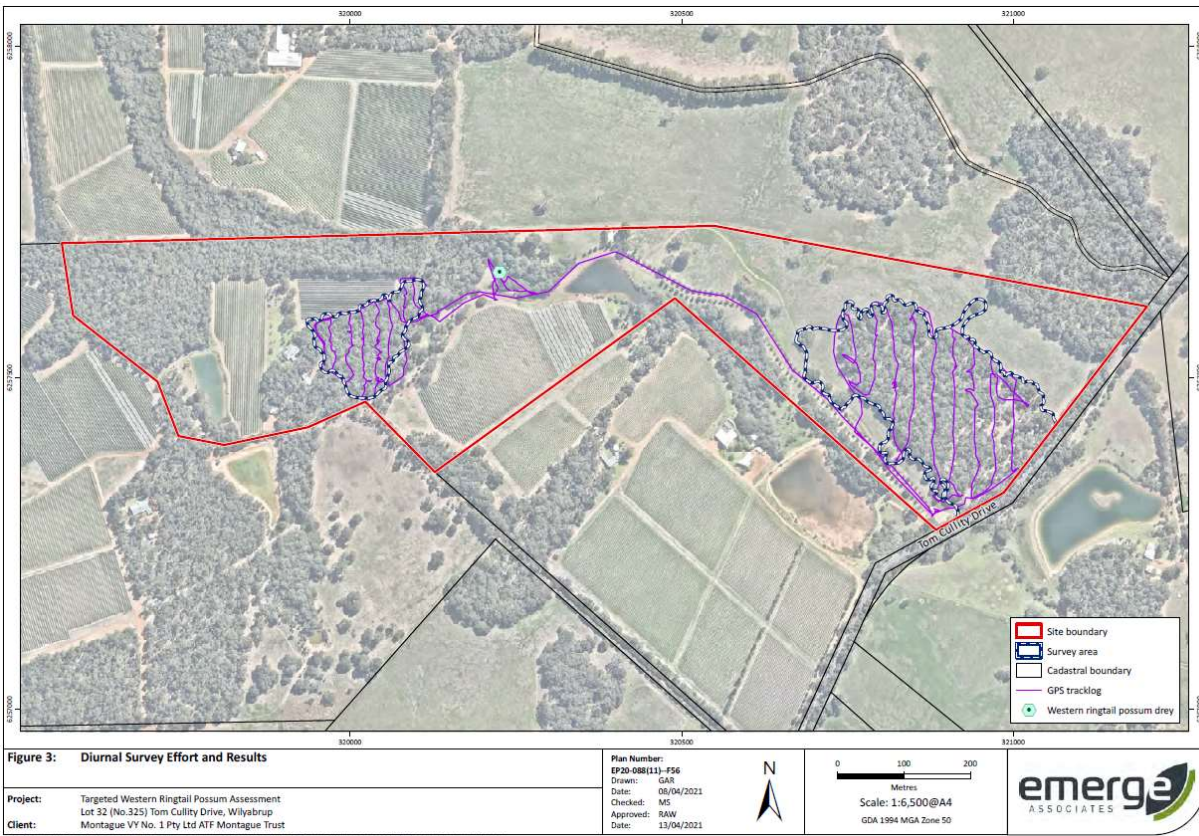


Figure 16. Targeted western ringtail possum diurnal survey effort and results within Lot 32 on Deposited Plan 46641 (Emerge Associates, 2021d).



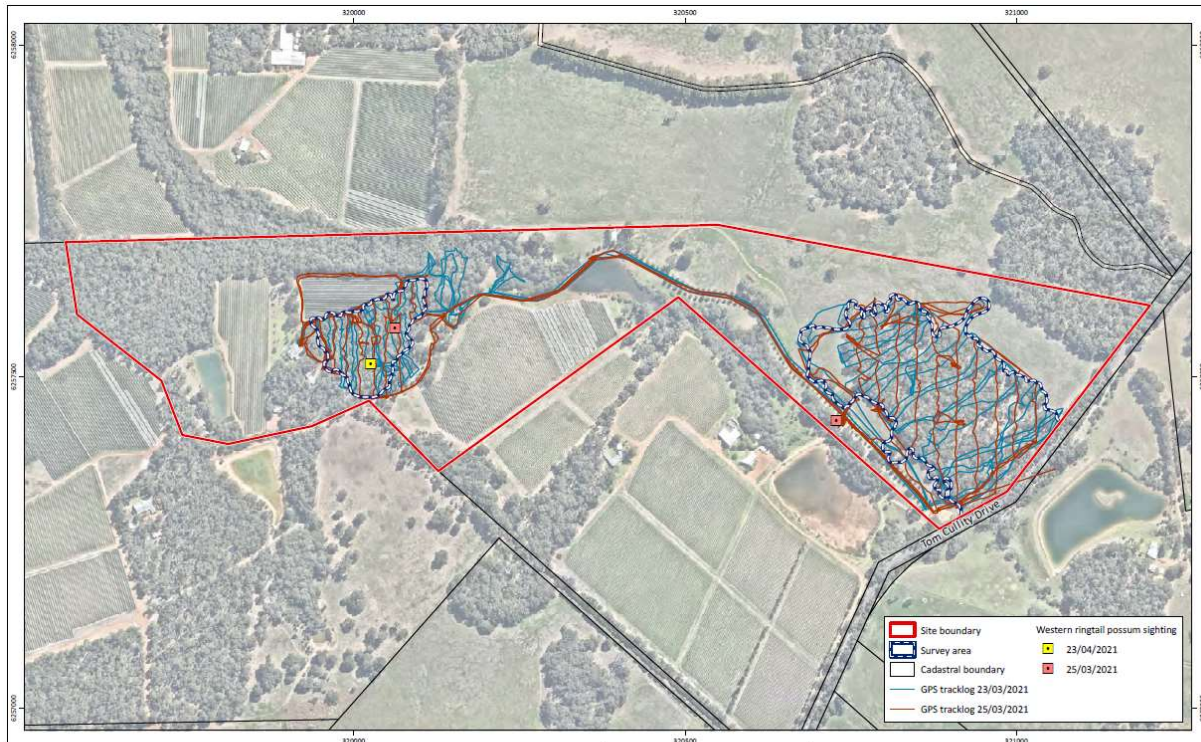


Figure 4: Nocturnal Survey Effort and Results




<b>Project:</b> Targeted Western Ringtail Possum Assessment Lot 32 (No. 325) Tom Cully Drive, Wilyabrup <b>Client:</b> Montague VV No. 1 Pty Ltd ATF Montague Trust	<b>Plan Number:</b> EP20-088(11)-F57 <b>Drawn:</b> GAI <b>Date:</b> 08/04/2021 <b>Checked:</b> MS <b>Approved:</b> RAW <b>Date:</b> 13/04/2021	  Scale: 1:6,500@A4 GDA 1994 MGA Zone 50	
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Figure 17. Targeted western ringtail possum nocturnal survey effort and results within Lot 32 on Deposited Plan 46641 (Emerge Associates, 2021d).

## 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)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- DBCA South West Vegetation Complex Statistics
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Geomorphic Wetlands Leeuwin Naturaliste Ridge and Donnybrook to Nannup - Unreviewed (DBCA-043)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)

- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

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

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