



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9739/1
File Number: DWERVT9943
Duration of Permit: From 24 October 2022 to 24 October 2029

PERMIT HOLDER

City of Busselton

LAND ON WHICH CLEARING IS TO BE DONE

Payne Road Reserve (PIN - 11471094), Jindong and Kaloorup

AUTHORISED ACTIVITY

The permit holder must not clear more than sixteen (16) trees of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Period during which clearing is authorized

The permit holder must not clear any *native vegetation* after 24 October 2024.

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 towards adjacent *native vegetation* to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

5. Fauna management – western ringtail possums and black cockatoos

- (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 *Pseudocheirus occidentalis* (western ringtail possum(s)).
- (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 *fauna specialist*.
- (c) Any western ringtail possum(s) individual removed in accordance with condition 5(b)(ii) must be relocated by a *fauna specialist* to a *suitable habitat*.
- (d) Where fauna is identified under condition 5(a), the permit holder must within 14 calendar days provide the following records to the *CEO*:
 - (i) the number of individuals identified;
 - (ii) the date each individual was identified;
 - (iii) the location where each individual was identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 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 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. Revegetation and rehabilitation

The permit holder must within 24 months of undertaking clearing authorised under this permit:

- (a) undertake the *planting* of 20 *Corymbia calophylla* (marri) seedlings within Payne Road Reserve (PIN - 11471094), Jindong and Kaloorup;
- (b) ensure planting is undertaken at the *optimal time*;
- (c) the permit holder must within 24 months of *planting* the 20 *Corymbia calophylla* (marri) seedlings in accordance with condition 6(a) of this permit;
 - (i) engage an *environmental specialist* to make a determination that at least 20 *Corymbia calophylla* (marri) seedlings will survive; and
 - (ii) if the determination made by the *environmental specialist* under condition 6(c)(i) that at least 20 *Corymbia calophylla* (marri) seedlings will not survive, the permit holder must plant additional native seedlings that will result in at least 20 *Corymbia calophylla* (marri) seedlings persisting within Payne Road Reserve (PIN - 11471094), Jindong and Kaloorup.
- (d) where additional planting of native seedlings is undertaken in accordance with condition 6(c)(ii), the permit holder must repeat the activities required by condition 6(b) and 6(c) of this permit.

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"> (a) the species composition, structure, and density of the cleared area; (b) the location where the <i>clearing</i> occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared;

No.	Relevant matter	Specifications
		(d) the direction of clearing; (e) the size of the area cleared (in hectares); (f) actions taken to avoid, minimise, and reduce the impacts and extent of <i>clearing</i> in accordance with <i>condition 2</i> ; (g) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with <i>condition 3</i> ; (h) actions taken to manage and mitigate impacts to <i>Pseudocheirus occidentalis</i> (western ringtail possum) in accordance with <i>condition 5</i> ; and (i) actions taken to undertake planting of 20 <i>Corymbia calophylla</i> (marri) seedlings in accordance with <i>condition 6</i> , including the <i>environmental specialist</i> determination on survivability.

8. Reporting

The permit holder must provide to the *CEO* the records required under *condition 7* of this permit when requested by the *CEO*.

DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the <i>clearing</i> 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 specializing in environmental science or equivalent, has a minimum of two years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed and 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

Term	Definition
	depression.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has 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 <i>CEO</i> as a suitable environmental specialist.
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.
optimal time	means the period from May to July for undertaking planting.
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species.
suitable habitat	means a habitat featuring ecological characteristics that may provide for the breeding, feeding, resting, or sheltering of a threatened and/or priority fauna species.
weeds	means any plant – <ul style="list-style-type: none"> (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



Mathew Gannaway
A/SENIOR MANAGER
NATIVE VEGETATION REGULATION

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

30 September 2022

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1 and 2).



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

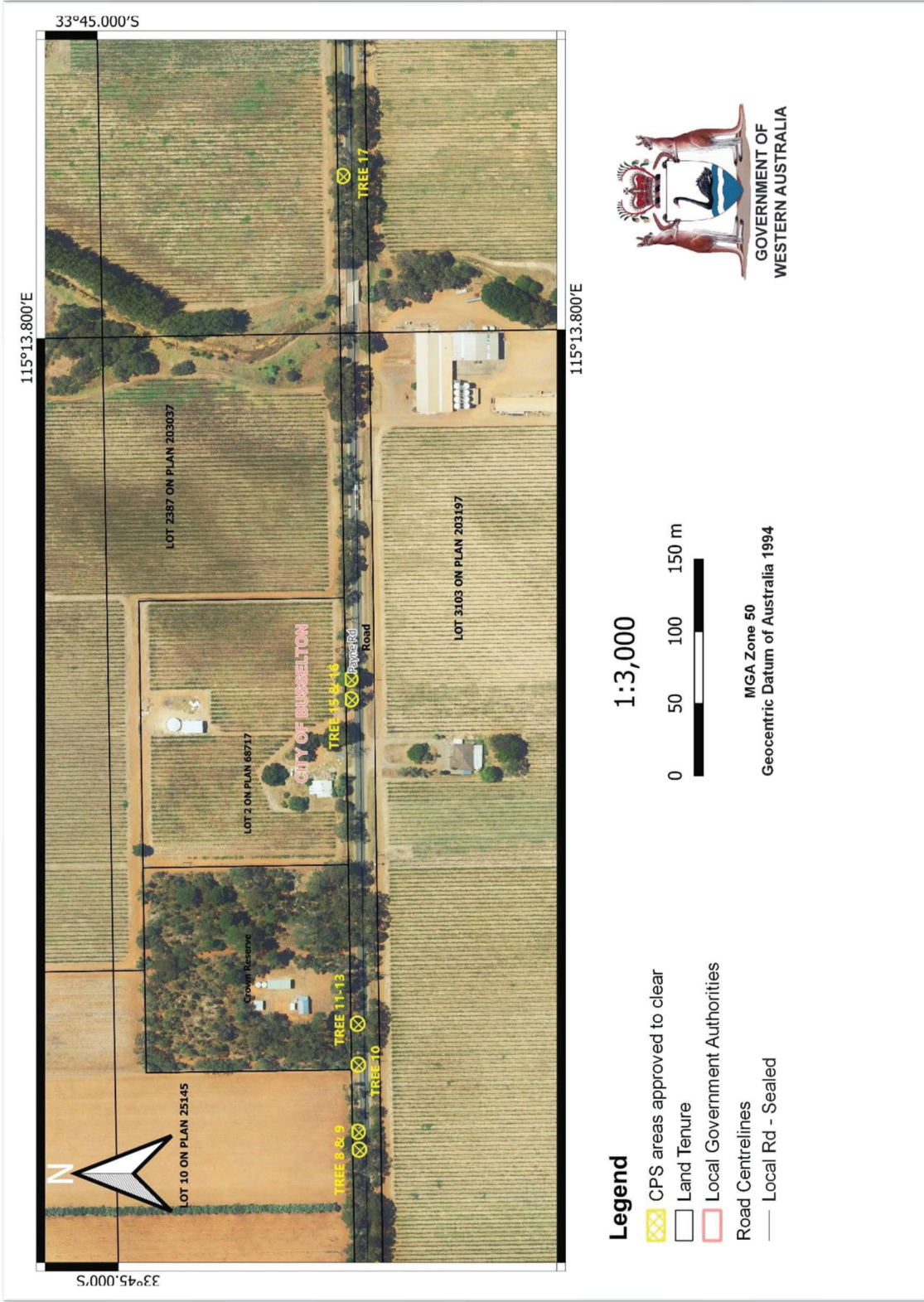


Figure 2: Map of the boundary of the eastern area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9739/1
Permit type:	Area permit
Applicant name:	City of Busselton
Application received:	13 May 2022
Application area:	Sixteen (16) native trees (revised)
Purpose of clearing:	Road upgrades
Method of clearing:	Mechanical Removal
Property:	Payne Road Reserve (PIN - 11471094)
Location (LGA area/s):	City of Busselton
Localities (suburb/s):	Jindong and Koorup

1.2. Description of clearing activities

The application is for an Area Permit to clear 16 native trees within Payne Road Reserve (PIN 11471094), Jindong and Koorup, for the purpose of road upgrades.

1.3. Decision on application

Decision:	Granted
Decision date:	30 September 2022
Decision area:	Sixteen (16) native trees

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 14 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix F.1), the images from a flora and vegetation survey (Appendix E), the clearing principles set out in Schedule 5 of the EP Act (Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (Section 3). The Delegated Officer also took into consideration that the purpose of the clearing is to improve community safety and reduce the likelihood and/or severity of crashes by improving road width to accommodate traffic volumes, increase sightlines/driver visibility, remove risks from falling branches and trees being in close proximity to the road.

The assessment identified that the proposed clearing may result in:

- the loss of native vegetation that is potentially suitable habitat for *Pseudocheirus occidentalis* (western ringtail possums);
- loss of native trees that are foraging habitat for *Zanda latirostris* (Carnaby's black cockatoo), *Zanda baudinii* (Baudin's black cockatoo) and *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), (collectively known as black cockatoos);

- loss of native vegetation within an extensively cleared landscape; and
- the potential introduction and spread of weeds and dieback 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 avoidance and mitigation measures (Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation or have long-term adverse impacts on conservation significant fauna or flora species and can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures.

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

- avoid, minimise to reduce the impacts and extent of clearing.
- removal of tree 14 (115.226, - 33.752) from the application, through avoidance measures agreed upon with the applicant.
- fauna management conditions for the *Pseudocheirus occidentalis* (western ringtail possum).
- a fauna specialist to be present to monitor clearing and to take steps as specified in the permit conditions if nominated fauna species are present during the clearing.
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback. Weeds and dieback management measures as specified in the clearing permit.
- twenty (20) marri trees will be planted within the road reserve, as mitigation measures for the clearing of the 16 trees that provide foraging value.



Clearing Permit Decision Report

1.5. Site map



Figure 1: Map of the application area CPS 9739/1, showing location of tree 1 - 7. The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.



Figure 2: Map of the application area CPS 9739/1, showing location of tree 10 - 13 and 15 - 17. The areas crosshatched yellow indicates the areas authorised to be cleared under the granted clearing permit.



Clearing Permit Decision Report

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016 (WA) (BC Act)*.
- *Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)*.

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant, demonstrating that avoidance and mitigation measures had been considered, in particular, Accendo (2022) provided the following comments:

Avoidance

- The road reserve has been purposefully surveyed in order to determine the minimum clearing requirements, whilst ensuring public safety. As far as practicable, roadside vegetation has been retained.
- As a result of avoidance measures, the City of Busselton removed Tree 14 (115.226, - 33.752) from the application, as it was potentially a significant habitat tree for black cockatoos.

Mitigation

To avoid any direct or indirect impacts to other vegetation within or adjacent to these trees, the applicant has committed to the following mitigation measures:

- Prior to clearing commencing, the 16 trees proposed to be cleared will be clearly demarcated with flagging tape.
- No vehicular access or parking within vegetated areas in the road reserve.
- No stockpiling of cleared vegetation or storage of equipment within the road reserve.
- Twenty (20) marri trees will be planted within the road reserve to mitigate the clearing of the 16 trees. This mitigation measure will ensure the clearing will not contribute to the decline of the local vegetation extent.

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

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (Appendix C) identified that the impacts of the proposed clearing present a risk to fauna. 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 Principle (b)

Assessment

Within the local area (10 kilometre radius of the application area), 18 conservation significant fauna species have been recorded. Of these, five species occur within freshwater habitats not represented within the application area. The application area does not contain a dense understorey (Accendo, 2022), so is not considered to provide permanent habitat for ground dwelling species, but is likely to provide an ecological linkage.

The application area is likely to provide habitat for arboreal species recorded within the local area including, but not limited to; *Pseudocheirus occidentalis* (western ringtail possum), *Phascogale tapoatafa wambenger* (south-western brush-tailed phascogale), Baudin's cockatoo, Carnaby's cockatoo and the forest red-tailed black cockatoo. It must be noted that *Calyptorhynchus sp.* (white-tailed black cockatoo) have been recorded in the local area. These records were obtained when the data collector could not definitively distinguish if they spotted a Baudin's cockatoo or a Carnaby's cockatoo, therefore the *Calyptorhynchus sp.* (white-tailed black cockatoo) category was created to incorporate these records.

***Pseudocheirus occidentalis* (western ringtail possum)**

The application area is within the Swan Coastal Management Zone for the western ringtail possum as described within the 'Western Ringtail Possum Recovery Plan' (DPaW, 2017) (Figure 3). The management plan outlines strategies to slow the decline in population size, extent and area of occupancy through managing major threatening processes affecting the subpopulations and their habitats and allowing the persistence of the species in each of the identified key management zones: Swan Coastal Plain, southern forests and south coast (DPaW, 2017).

Suitable habitat for western ringtail possum varies between management zones, however commonly it includes suitable vegetation structures for protection and/or nesting, and canopy continuity to aid in avoidance and/or escape predation and other threats. Vegetation communities critical to western ringtail possum include long unburnt mature remnants of *Agonis flexuosa* (peppermint) woodlands with high canopy continuity and *Eucalyptus marginata* (jarrah) and *Corymbia calophylla* (marri) forests and woodlands with limited anthropogenic disturbance (unlogged or lightly logged, and a low intensity and low frequency fire history), that are intensively fox-baited and have low indices of fragmentation. Long-term survival of western ringtail possum also requires linkages between such suitable habitat patches (DPaW, 2017). The diet of the possums almost exclusively comprises the dominant or co-dominant upper and mid-storey myrtaceous plants: peppermint, marri and jarrah (Jones *et al.*, 1994). Accendo (2022) identified the application area to be in a 'Completely Degraded' (Keighery, 1994) condition, due to the absence of under and mid-storey, as well as past clearing, that contained marri and jarrah.

The application area (Payne Road) is mapped as 'High' Western Ringtail Possum Habitat Suitability (DBCA-049) suggesting suitable habitat corridor for western ringtail possum exists along the site, within the City of Busselton (Figure 3). Western ringtail possums have been recorded 175 times within the local area, with the most recent record taken in 2020 (DPaW, 2007-). The nearest record to the application area is 746m to the south-west and was taken in 2014.

It is not considered likely that the clearing of 16 trees over the 1.14 kilometre application area, with the already 'Completely Degraded' (Keighery, 1994) condition, would severely impact upon the suitability of this road verge to act as western ringtail possum habitat or as a suitable habitat corridor. However, given the western ringtail possum preferred habitat trees are present, and to minimise any potential impacts to individual western ringtail possums, a fauna management condition requiring the presence of a fauna spotter will help mitigate impacts to individuals.

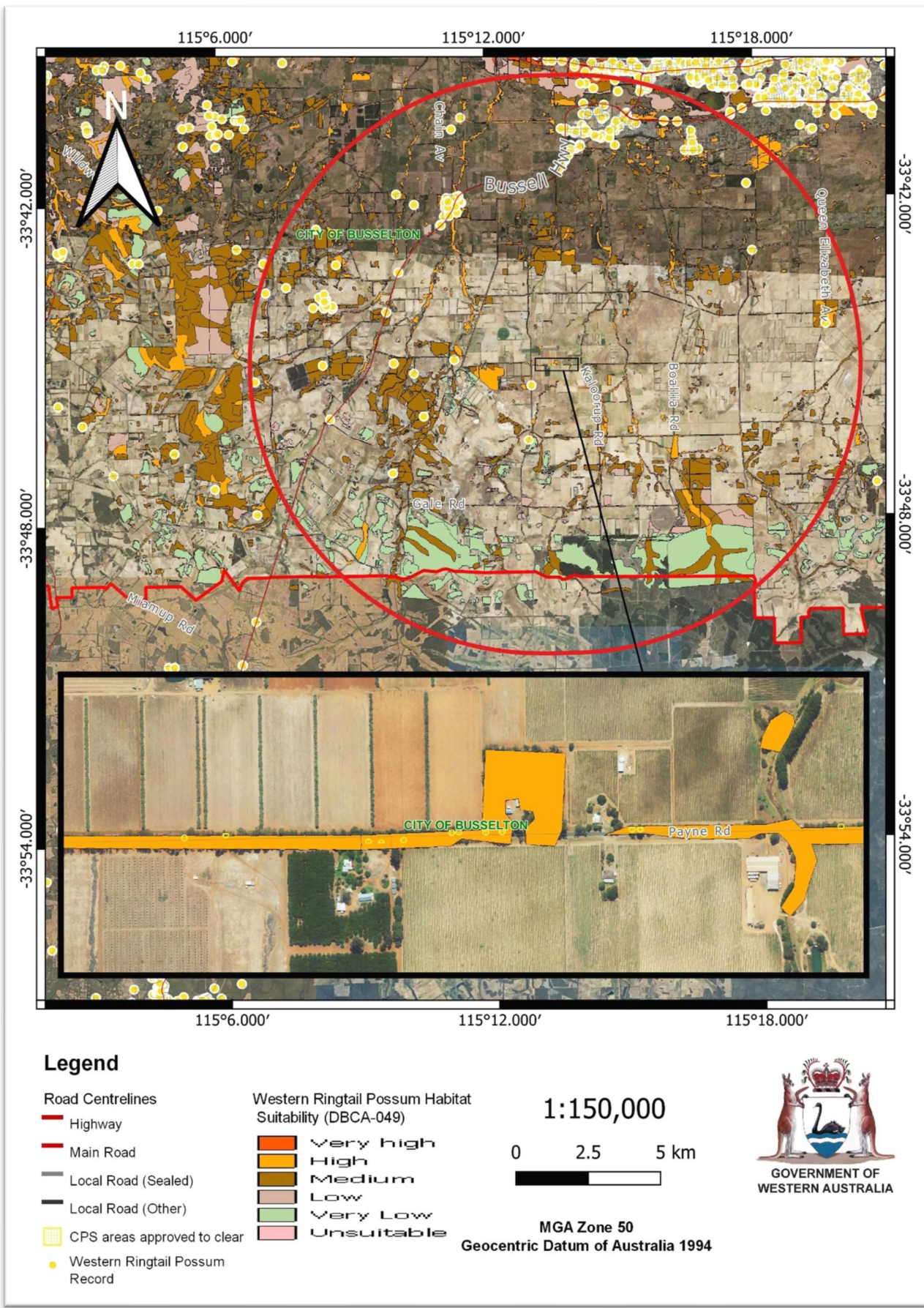


Figure 3: Map of the location of *Pseudocheirus occidentalis* (western ringtail possum) habitat suitability within the local area (10 kilometre radius of the application area) of application area CPS 9739/1, with onset map of *Pseudocheirus occidentalis* (western ringtail possum) habitat suitability within application area CPS 9739/1.

Black Cockatoo species

Baudin's cockatoo and Carnaby's cockatoo are listed as Endangered and the forest red-tailed black cockatoo is listed as Vulnerable under the BC Act and EPBC Act.

The application area is within the known distribution of Baudin's cockatoo, Carnaby's cockatoo and forest red-tailed black cockatoo (Figure 4). While habitat requirements for the three species of black cockatoos differ, the requirements in general can be categorised as breeding habitat, foraging habitat and night roosting habitat.

Breeding habitat

Breeding habitat for species of black cockatoos is described within the document 'EPBC Act referral guidelines for four threatened black cockatoo species' (DAWE, 2022) includes trees of species known to support breeding within the range of the species which either, have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, suitable DBH is 500 mm.

Supporting documents noted that 12 of the 17 trees in the application were *Corymbia calophylla* (marri), eight of which were juvenile (DBH less than 500 mm) and four of which were mature (DBH greater than 500 mm). Of the four mature *Corymbia calophylla* (marri), three did not appear to contain hollows and one contained two very small hollows unsuitable for black cockatoo breeding purposes (Accendo, 2022). Therefore, these 12 trees are unlikely to provide a significant breeding habitat for black cockatoos. Of the remaining five trees included in the application, three were identified as *Casuarina* spp., one was identified as a dead *Eucalyptus marginata* (jarrah) and the other was an unknown species. It was noted that the *Eucalyptus marginata* (jarrah) did contain hollows, however, they were unable to determine its suitability for black cockatoo nesting due to the orientation of the hollow openings. As the suitability of the hollows were unable to be determined, this tree was excluded from the application area (Tree 14). Noting the above, no trees with suitable hollows for black cockatoo will be cleared.

Foraging habitat

Foraging habitat differs between the three species of black cockatoos:

- *Zanda baudinii* (Baudin's black cockatoo) - Primarily seeds of marri, rarely jarrah, in woodlands and forest, and seeds of native proteaceous plant species (for example, *Banksia* spp. (includes *Dryandra* spp.) and *Hakea* spp.). During the breeding season feed primarily on native vegetation, particularly marri (seeds, flowers, nectar and grubs). Also insects and insect larvae; pith of *Anigozanthos flavidus* (Kangaroo paw); tips of *Pinus* spp.; *Macadamia* spp., almonds and pecans; seeds of apples and pears; and persimmons.
- *Zanda latirostris* (Carnaby's black cockatoo) - Native shrubland, kwongan heathland and woodland on seeds, flowers and nectar of native proteaceous plant species (*Banksia* spp., *Hakea* spp. and *Grevillea* spp.), as well as *Callistemon* spp. and marri. Also seeds of introduced species including *Pinus* spp., *Erodium* spp., wild radish, canola, almonds, macadamia and pecan nuts; insects and insect larvae; occasionally apples and persimmons; and liquidambar.
- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) - Primarily seeds of jarrah and marri in woodlands and forest, and edges of karri forests, including wandoo and blackbutt. Forages on *Allocasuarina* cones, fruits of *Persoonia longifolia* (snottygobble) and *C. haematoxylon* (mountain marri). Other less important foods include blackbutt, bullich, *Allocasuarina fraseriana*, *Hakea* spp., Tuart, *E. decipiens* (redheart moit) and *E. lehmannii* (bushy yate). Also some introduced eucalypts such as *E. camaldulensis* (river red gum) and *E. grandis* (rose gum). On the Swan Coastal Plain, often feeds on introduced *Melia azedarach* (cape lilac), *E. caesia*, *E. erythrocorys*, Lemon-scented Gum and *Harpephyllum caffrum* (kaffir plum).

According to current Swan Coastal Plain mapping, the application area and its local area contains vegetation which includes a mixture of open forest of *Corymbia calophylla* (marri), *Eucalyptus marginata* (jarrah), *Banksia* species and woodland of *Corymbia calophylla* (marri) with minor occurrences of *Corymbia haematoxylon* (mountain marri). Woodland of *Eucalyptus rudis* (flooded gum) - *Melaleuca* species along creeks and on flood plains (DAWE, 2022). Noting the above listed foraging preferences of black cockatoo species, is it likely that they will find foraging habitat in the application area and its local area.

Food resources within the range of roost sites are important to sustain populations of black cockatoos, and foraging resources should therefore be viewed in the context of the proximity to the known night roosting sites to the application area. Available databases show that there are six records of black cockatoo roost sites within the local area but no mapped breeding locations. Black cockatoos will generally forage up to 12 kilometres from an active breeding site. Following breeding, they will flock in search of food, usually within six kilometres of a night roost (DAWE, 2022), but may range up to 20 kilometres.

Noting the application area is within the foraging distance of known roosts, the clearing of 16 trees over the 1.14 kilometre stretch of application area may provide suitable foraging habitat for black cockatoos within the local area. To mitigate the loss of 16 trees, the applicant proposes to plant 20 marri trees within the road reserve.

Night Roost sites

Black cockatoo night roosts are usually located in the tallest trees of an area, and in close proximity to both a food supply and surface water (DAWE, 2022). Given the juvenile trees within the application area and the absence of substantial hollows (Accendo, 2022), it is unlikely to provide night roosting habitat for black cockatoos.

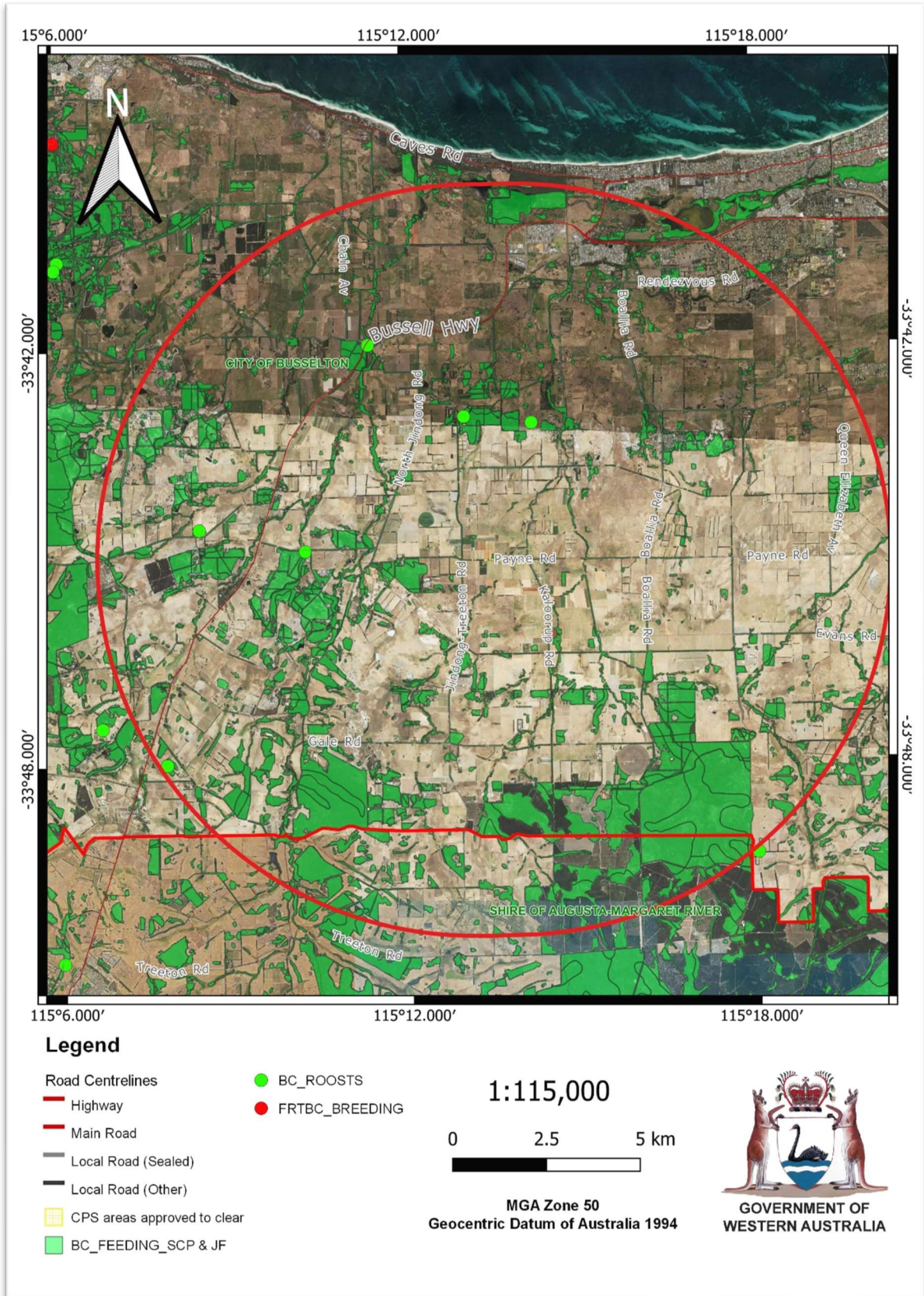


Figure 4: Map of the location of black cockatoo roosts and feeding locations within the local area (10 kilometre radius of the application area) of application area CPS 9739/1.

Other fauna

The application area may function as an ecological linkage for fauna moving between larger remnants of native vegetation within the local area. The ecological linkage values will not likely be severed by the proposed clearing, noting native vegetation will remain with the road reserve and additional trees will be planted as a mitigation measure to replace the tree being cleared. The preclearing inspection of the application will ensure no other fauna are impacted by the clearing.

Conclusion

Based on the above assessment, the application area includes foraging habitat for black cockatoos and western ringtail possum. Noting the proposed clearing is for 16 trees and the mitigation measures required, clearing of this habitat is not likely to be significant. However, the proposed clearing may result in potential impacts on western ringtail possum that may be present at the time of clearing. Preclearing inspections will mitigate this risk.

For the reasons set out above, it is considered that the impacts of the proposed clearing on biological values can be managed through the avoidance and minimisation measures committed to by the applicant including conditions as specified in the permit.

Conditions

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

- A fauna specialist to be present to monitor clearing and to take steps as specified in the permit conditions if nominated fauna species are present during the clearing.
- Weeds and dieback management measures as specified in the clearing permit.
- Planting of 20 marri trees within the road reserve.

3.2.2. Significant remnant vegetation – Clearing Principle (e)

Assessment

The native vegetation extent in the local area (10 km radius) retains only 18.90 percent of the original vegetation extent (Figure 3), whilst the Abba vegetation complex representative of the application area retains approximately 6.54 percent of its original native vegetation cover. These figures are below the National Objectives and Targets for Biodiversity and Conservation of native vegetation cover of a minimum 30 percent. Clearing will contribute to the cumulative loss of native vegetation cover in the already extensively cleared landscape.

Given the limited extent of clearing and the Degraded to Completely Degraded condition of the vegetation proposed to be cleared, it is considered that the impact of clearing could be mitigated through appropriate onsite revegetation. Acknowledging the impacts of clearing on this environmental value, the applicant will be planting 20 marri trees within the road reserve.

Conclusion

Based on the above assessment, the proposed clearing is impacting a significant remnant of native vegetation within an extensively cleared landscape. The mitigation measures proposed by the applicant through the rehabilitation of 20 native trees does not result in a significant residual impact.

Conditions:

The following is required as a condition to the permit:

- Planting of 20 marri trees within the road reserve.

3.2.3. Relevant planning instruments and other matters

The application area is located within the Busselton-Capel Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act), but not within a surface water area. As no watercourses are present within the application area and the clearing is on a roadside, it is unlikely that approvals will be required under the RIWI Act.

There are six Aboriginal Heritage Places (DPLH-001) within the local area (10 kilometre radius from the centre of the area proposed to be cleared) with the closest being Busselton Fringe Camp 02 (Place ID - 5613) camp (approximately 8.01 kilometre south-east of the application site) and the next closest being Marybrook 1 (Place ID - 23) camp (approximately 8.29 kilometre north-north-west of the application site). 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



Clearing Permit Decision Report

Appendix A. Additional information provided by applicant

The applicant submitted a flora and fauna report completed by Accendo Australia in April 2022. They supplied information on avoidance and mitigation, addressed the ten clearing principles outlined in Schedule 5 of the EP Act and photos of the 16 subject trees within the application to be cleared (Appendix E). This information has been taken into consideration by the Delegated Officer in determining the outcome of this application.

Appendix B. Site Characteristics

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

B.1. Site characteristics

Characteristic	Details
Local context	<p>The native vegetation, comprised of sixteen (16) native trees proposed to be cleared, is located along a road reserve within an intensive land use zone of Western Australia. The majority of this roadside vegetation is adjacent to cleared paddocks used for agricultural and horticultural purposes. The proposed clearing area contributes to habitat linkages in an east west direction between parcels of native vegetation.</p> <p>Aerial imagery and Spatial data the local area (10 kilometre radius from the centre of the area proposed to be cleared) retains approximately 18.9 percent of the original remnant vegetation cover.</p>
Ecological linkage	<p>On Payne Rd, where the application area lays in a west-east direction, a Roadside Conservation – Road centreline (DBCA-030) area was identified in December 2008.</p>
Conservation areas	<p>The closest conservation area is the Blackwood State Forest located approximately 6.0 kilometres to the south of the application area.</p>
Vegetation description	<p>A vegetation survey (Accendo, 2022) found the proposed clearing area is consistent with original Matiske and Havel 1998 vegetation complex mapping in the area which is:</p> <ul style="list-style-type: none">Abba Complex, A mixture of open forest of <i>Corymbia calophylla</i> (marri) - <i>Eucalyptus marginata</i> (jarrah) - <i>Banksia</i> species and woodland of <i>Corymbia calophylla</i> (marri) with minor occurrences of <i>Corymbia haematoxylon</i> (Mountain Marri). Woodland of <i>Eucalyptus rudis</i> (flooded gum) - <i>Melaleuca</i> species along creeks and on flood plains. <p>Representative photos, survey descriptions and a map are available in Appendix E.</p> <p>Within a 10km radius of the application area, Abba Complex vegetation type has retained 6.54 per cent of the pre-european extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Vegetation survey (Accendo, 2022) provided by the applicant indicates the vegetation within the application area is in Completely Degraded condition (Keighery, 1994).</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix D. The photo with survey descriptions are available in Appendix E.</p>
Climate and landform	<p>Rainfall: 1100 millilitres per annum and 1200 millilitres per annum Evapotranspiration: 800 millilitres per annum.</p>
Soil description	<p>The application area is located within the Jindong fertile flats Phase - well drained flats with deep red brown sands, loams and light clays (i.e. Marybrook soils) – (soil unit - 213AbJDf) (Schoknecht, <i>et al.</i> 2004).</p>

Characteristic	Details																		
Land degradation risk	<table border="1"> <thead> <tr> <th>Risk categories</th> <th>Application Area</th> </tr> </thead> <tbody> <tr> <td>Wind erosion</td> <td>L2: 3-10% of map unit has a high to extreme wind erosion risk</td> </tr> <tr> <td>Water erosion</td> <td>L1: <3% of map unit has a high to extreme water erosion risk</td> </tr> <tr> <td>Water logging</td> <td>M1: 10-30% of map unit has a moderate to very high waterlogging risk</td> </tr> <tr> <td>Water Repellence</td> <td>L1: <3% of map unit has a high water repellence risk</td> </tr> <tr> <td>Sub-surface Acidification</td> <td>H2: >70% of map unit has a high subsurface acidification risk or is presently acid</td> </tr> <tr> <td>Phosphorous export</td> <td>L1: <3% of map unit has a high to extreme phosphorus export risk</td> </tr> <tr> <td>Salinity</td> <td>L1: 30-50% of map unit has a moderate to high salinity risk or is presently saline</td> </tr> <tr> <td>Flooding</td> <td>L1: <3% of the map unit has a moderate to high flood risk</td> </tr> </tbody> </table>	Risk categories	Application Area	Wind erosion	L2: 3-10% of map unit has a high to extreme wind erosion risk	Water erosion	L1: <3% of map unit has a high to extreme water erosion risk	Water logging	M1: 10-30% of map unit has a moderate to very high waterlogging risk	Water Repellence	L1: <3% of map unit has a high water repellence risk	Sub-surface Acidification	H2: >70% of map unit has a high subsurface acidification risk or is presently acid	Phosphorous export	L1: <3% of map unit has a high to extreme phosphorus export risk	Salinity	L1: 30-50% of map unit has a moderate to high salinity risk or is presently saline	Flooding	L1: <3% of the map unit has a moderate to high flood risk
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Flooding	L1: <3% of the map unit has a moderate to high flood risk																		
Waterbodies	<p>No wetlands or waterways are mapped as occurring within the application area.</p> <p>The nearest waterway is Buayanyup River, which lays approximately 3.12 kilometres south-east of the application site.</p>																		
Hydrogeography	<p>The application area is in the Coastal Plain hydrological zone which is comprised of major aquifers: Leederville, Yarragadee & Cockleshell Gully Fms. The eastern Yoganup Fm, is a major recharge area; discharge to the Indian Ocean. The application area also lies within the Busselton-Capel Groundwater Area - UFI 32, proclaimed under the RIWI Act.</p> <p>According to available databases, the groundwater salinity ranges from 1000 to 3000 milligrams to litres total dissolved solids which can be described as brackish to saline.</p>																		
Flora	<p>There are records of 56 conservation significant flora within the local area. The closest record is a Threatened species <i>Daviesia elongata</i>, recorded approximately 64 metres from the application area.</p> <p>There are no records of conservation significant flora within the application area according to local mapping, which was also noted by supporting documents submitted with the application (Accendo, 2022).</p>																		
Ecological communities	<p>There are four Threatened Ecological Community (TEC) within the local area (10 kilometre radius of the application area):</p> <ul style="list-style-type: none"> • Vasse Blackbutt (near Busselton) - Eucalyptus patens, Corymbia calophylla, Agonis flexuosa Closed Low Forest (Critically Endangered) • Whicher Scarp B2 - West Whicher Scarp Banksia attenuata woodland (Swan Coastal Plain centred woodlands of grey/white sands community B2) (Endangered) • SCP02 - Southern wet shrublands, Swan Coastal Plain (floristic community type 2 as originally described in Gibson et al. (1994)) (Vulnerable) • SCP10b - Shrublands on southern Swan Coastal Plain Ironstones (Busselton area) (floristic community type 10b as originally described in Gibson et al. (1994)) (Vulnerable) <p>There are eight Priority Ecological Communities (PEC) within the local area, the closest being Whicher Scarp C2 - Whicher Scarp Jarrah woodland of deep coloured sands, which is approximately 38 metres north of the application area.</p> <p>Accendo (2022) did not identify any TECs or PECs within the application area.</p>																		
Fauna	<p>There are records of 18 conservation significant fauna species found in the local area, 13 listed as threatened under BC Act and 5 priority listed by DBCA.</p> <p>The application area is within the mapped distribution of <i>Zanda latirostris</i> (Carnaby's black cockatoo), <i>Zanda baudinii</i> (Baudin's black cockatoo) and <i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo), which are listed as endangered and/or vulnerable under the BC Act and the Commonwealth EPBC Act.</p> <p>There are six records of black cockatoo roost within 10 kilometres of the application area. There are no confirmed black cockatoo breeding trees within the application area (Accendo</p>																		

Characteristic	Details
	<p>2022), however, with roosts being identified within 6 kilometres of the application area, it is possible that the application area and surrounds are used as foraging habitat.</p> <p>The closest confirmed <i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo) breeding site is approximately 15.31 kilometres to the north-north-east of the application area and the closest confirmed <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo) breeding site is approximately 29.59 kilometres south-west of the application area.</p>

B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion**					
Warren	833,985.56	659,432.21	79.07	558,485.38	66.97
Vegetation complex*					
Wilyabrup, W2	8,620.69	7,602.19	88.19	6,793.40	78.80
Remnant vegetation					
Remnant vegetation mapped within 10 km	27,324	9,498	34.8	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

B.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Actitis hypoleucos</i> (common sandpiper)	MI	N	N	6.58	1	N/A
<i>Ardenna carneipes</i> (flesh-footed shearwater, fleshy-footed shearwater)	VU	N	N	5.36	1	N/A
<i>Austroassiminea lethra</i> (Cape Leeuwin freshwater snail)	VU	N	N	5.76	2	N/A
<i>Calidris ruficollis</i> (red-necked stint)	MI	N	N	4.54	1	N/A
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo)	VU	Y	Y	3.20	9	Y
<i>Calyptorhynchus</i> sp. 'white-tailed black cockatoo' (white-tailed black cockatoo)	EN	Y	Y	2.91	35	Y
<i>Caretta caretta</i> (loggerhead turtle)	EN	N	N	8.2	2	N/A
<i>Dasyurus geoffroi</i> (chuditch, western quoll)	VU	N	N	4.38	3	N/A
<i>Diomedea exulans</i> (wandering albatross)	VU	N	N	4.54	1	N/A
<i>Engaewa pseudoreducta</i> (Margaret River burrowing crayfish)	CR	N	N	8.20	1	N/A
<i>Engaewa reducta</i> (Dunsborough burrowing crayfish)	EN	N	N	2.00	38	N/A
<i>Falco peregrinus</i> (peregrine falcon)	OS	Y	N	4.54	2	N/A
<i>Hydromys chrysogaster</i> (water-rat, rakali)	P4	N	N	5.61	6	N/A

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Hydroprogne caspia</i> (Caspian Tern)	MI	N	N	4.54	1	N/A
<i>Isoodon fusciventer</i> (quenda, southwestern brown bandicoot)	P4	Y	Y	2.42	26	N
<i>Leipoa ocellata</i> (malleefowl)	VU	N	N	5.57	1	N/A
<i>Macronectes halli</i> (northern giant petrel)	MI	N	N	4.54	1	N/A
<i>Macrotis lagotis</i> (bilby, dalgyte, ninu)	VU	N	N	5.29	1	N/A
<i>Notamacropus irma</i> (western brush wallaby)	VU	N	N	6.10	2	N/A
<i>Numenius phaeopus</i> (whimbrel)	MI	N	N	6.58	1	N/A
<i>Pandion cristatus</i> (osprey, eastern osprey)	MI	N	N	3.49	2	N/A
<i>Phascogale tapoatafa wambenger</i> (south-western brush-tailed phascogale, wambenger)	CD	Y	Y	3.17	36	N
<i>Pseudocheirus occidentalis</i> (western ringtail possum, ngwayir)	CR	Y	Y	0.02	87	N
<i>Setonix brachyurus</i> (quokka)	VU	N	N	7.69	3	N/A
<i>Sterna hirundo</i> (common tern)	MI	N	N	4.54	1	N/A
<i>Thalassarche chlororhynchos</i> (Atlantic yellow-nosed albatross)	MI	N	N	4.54	2	N/A
<i>Thalasseus bergii</i> (crested tern)	MI	N	N	4.54	7	N/A
<i>Thinornis rubricollis</i> (hooded plover, hooded dotterel)	P4	N	N	4.54	10	N/A
<i>Westralunio carteri</i> (Carter's freshwater mussel)	VU	N	N	2.78	2	N/A
<i>Zanda baudinii</i> (Baudin's cockatoo)	EN	Y	Y	1.06	36	Y
<i>Zanda latirostris</i> (Carnaby's cockatoo)	EN	Y	Y	2.37	40	Y

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

B.4. Ecological community analysis table

Community 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)	Are surveys adequate to identify? [Y, N, N/A]
Shrublands of near permanent wetlands in creeklines of the Whicher Scarp (Whicher Scarp community G2)	Priority 1	N	N	N	5.44	Y
<i>Banksia</i> Dominated Woodlands of the Swan Coastal Plain IBRA Region	Endangered	N	N	N	6.27	Y
West Whicher Scarp <i>Banksia attenuata</i> woodland (Swan Coastal Plain centred woodlands of grey/white sands community B2)	Priority 1	N	N	N	6.87	Y

Community 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)	Are surveys adequate to identify? [Y, N, N/A]
Low shrublands on acidic grey-brown sands of the Gracetown soil-landscape system	Priority 2	N	N	N	9.27	Y

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

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared is not likely to contain local or regionally significant flora, fauna, habitats or assemblages of plants. A Flora and Vegetation Survey found no conservation significant flora species within the application area.</p>	Not likely to be at variance	No
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains habitat suitable for western ringtail possums and black cockatoos.</p>	At variance	Yes <i>Refer to Section 3.2.1. above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for threatened flora species listed under the BC Act. A Flora and Vegetation Survey found no conservation significant flora species within the application area.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contain species that indicate a TEC. A Flora and Vegetation Survey found no conservation TECs within the application area.</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of the mapped vegetation type and the native vegetation in the local area is not consistent with the national objectives and targets for biodiversity conservation in Australia.</p>	May be at variance	Yes <i>Refer to Section 3.2.2. above</i>
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area and the lack of topographical connectivity from the application area to conservation areas, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p>	Not likely to be at variance	No
Environmental value: land and water resources		

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (f)</u>: <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment</u>:</p> <p>Given no water courses or wetlands are recorded within the application area, and the distance from any waterbody within the local area, the proposed clearing is not associated with an environment associated with a wetland or watercourse.</p>	Not likely to be at variance	No
<p><u>Principle (g)</u>: <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment</u>:</p> <p>One soil type was mapped within the application area. Noting the extent and location of the application area and the vegetation remaining within the road reserve, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	No
<p><u>Principle (i)</u>: <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment</u>:</p> <p>Given no major rivers are recorded within three kilometres of the application area and that no watercourses or wetlands are to be impacted, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p><u>Principle (j)</u>: <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment</u>:</p> <p>The mapped soil type within the application area has a moderate to high risk of flooding. These occurrences are aligned with the numerous non-perennial watercourses in the local area, however, none intersect or come within 80 metres of the application area.</p> <p>As a result of the distance between the application area and any floodplain boundaries of neighbouring watercourses, it is considered that the proposed clearing is unlikely to contribute to increased incidence or intensity of flooding.</p>	Not likely to be at variance	No

Appendix D. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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

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



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Appendix E. Biological survey information excerpts and photographs of the vegetation



Plate 1. Tree 1 - A single mature *Corymbia calophylla* tree with a diameter at breast height (DBH) in excess of 50cm. The tree appeared to contain two very small hollows, unsuitable for black cockatoo breeding purposes.



Plate 2. Tree 2 - A single *Corymbia calophylla* tree. This tree does not constitute black cockatoo breeding habitat. Furthermore, the tree does not contain any hollows.

Figure 5: Vegetation photographs of application area from Accendo Australia survey in April 2022 (Accendo 2022).



Plate 3. Trees 3-4 and 5-6 - Four juvenile *Corymbia calophylla* trees. The trees do not provide black cockatoo habitat in consideration of their limited size and absence of hollows.

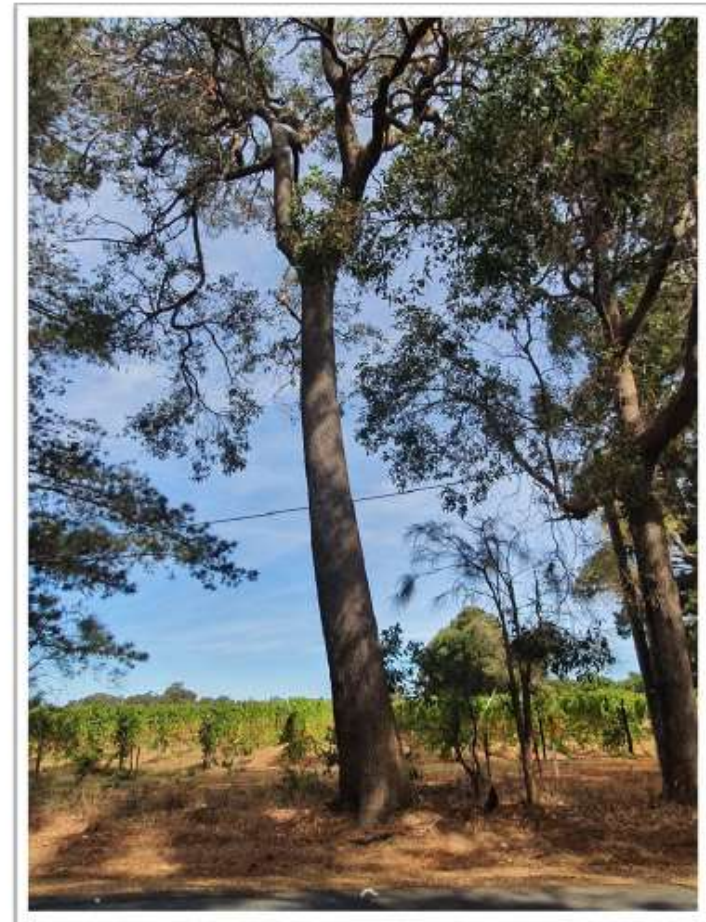


Plate 4. Tree 7 - A mature *Corymbia calophylla* tree with a DBH in excess of 50cm. The tree does not appear to contain any hollows.

Figure 6: Vegetation photographs of application area from Accendo Australia survey in April 2022 (Accendo 2022).



Plate 5. Tree 8 – A single juvenile *Corymbia calophylla* tree. The tree does not provide black cockatoo habitat in consideration of its limited size and absence of hollows.



Plate 6. Tree 9– A single juvenile *Corymbia calophylla* tree showing evidence of stress/disease. The tree does not provide black cockatoo habitat in consideration of its limited size and absence of hollows.

Figure 7: Vegetation photographs of application area from Accendo Australia survey in April 2022 (Accendo 2022).



Plate 7. Tree 10– A multi-stemmed *Casuarina* tree spp.



Plate 8. Trees 11, 12 and 13 – Two *Casuarina* tree spp. and one dead unknown tree species.

Figure 8: Vegetation photographs of application area from Accendo Australia survey in April 2022 (Accendo 2022).



Plate 10. Tree 15 - A single *Corymbia calophylla* tree. The tree does not provide black cockatoo habitat in consideration of its limited size and absence of hollows.



Plate 11. Tree 16 - A mature *Corymbia calophylla* tree with a DBH in excess of 50cm. The tree does not appear to contain any hollows.

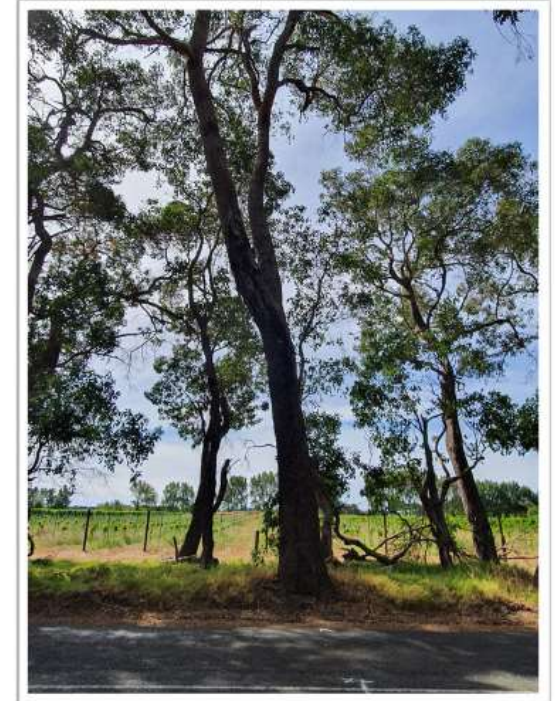


Plate 12. Tree 17 - A mature *Corymbia calophylla* tree with a DBH in excess of 50cm. The tree does not appear to contain any hollows.

Figure 9: Vegetation photographs of application area from Accendo Australia survey in April 2022 (Accendo 2022).



Figure 10: Map indicating location of trees in relation to photos in Figure 5 to 9 from Accendo Australia survey in April 2022 (Accendo 2022).



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Appendix F. Sources of information

F.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- 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)

F.2. References

- Accendo Australia (2022) *Supporting information for clearing permit application CPS 9738/1*, received 22 March 2022 (DWER Ref: DWERT9942~2).
- City of Busselton (2022) *Clearing permit application CPS 9738/1*, received 27 April 2022 (DWER Ref: DWERDT605519).
- Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.
- Department of Agriculture, Water and the Environment (DAWE) (2022) *Referral guideline for 3 WA threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and the Forest Red-tailed Black-cockatoo*. Department of Agriculture, Water and the Environment, Canberra, February. Available from: <https://www.awe.gov.au/environment/epbc/publications/referral-guideline-3-wa-threatened-black-cockatoo-species-2022>
- Department of Environment and Conservation (DEC) (2012) *Red-tailed Phascogale Phascogale calura (Gould, 1844) – Fauna Profiles*. Perth. Available from https://www.dpaw.wa.gov.au/images/documents/conservation-management/pests-diseases/red-tailed-phascogale_2012.pdf.
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