



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9152/1
File Number: DWERVT7209
Duration of Permit: From 26 March 2021 to 26 March 2023

PERMIT HOLDER

Kyle Richard Kophamel and Alana Jane Kophamel

LAND ON WHICH CLEARING IS TO BE DONE

Lot 134 on Deposited Plan 49334, Reinscourt

AUTHORISED ACTIVITY

The permit holder must not clear more than two (2) native trees within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. 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.

2. 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.

3. Directional clearing

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

4. 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 4(a) of this permit 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 4(b)(ii) of this permit must be relocated by a *western ringtail possum specialist* to a *suitable habitat*.
- (d) Where fauna is identified under condition 4(a) of this permit, 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 *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.

5. 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 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; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); and (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 1 of this permit; and (f) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with condition 2 of this permit; and (g) actions taken to manage and mitigate impacts to western ringtail possums in accordance with condition 4 of this permit.

6. Reporting

The permit holder must provide to the *CEO* the records required under condition 5 of this permit when requested by the *CEO*.

DEFINITIONS


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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
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.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
suitable habitat (western ringtail possum)	means habitat known to support western ringtail possums (<i>Pseudocheirus occidentalis</i>) within the known current distribution of the species, typically characterised by abundant foliage, presence of suitable nesting structures such as tree hollows, as well as high canopy cover and continuity. Known habitat includes peppermint (<i>Agonis flexuosa</i>) dominated woodlands, jarrah (<i>Eucalyptus marginata</i>) and marri (<i>Corymbia calophylla</i>) forests, riparian vegetation with a canopy of Bullich (<i>Eucalyptus megacarpa</i>) or flooded gum (<i>Eucalyptus rudis</i>), karri (<i>Eucalyptus diversicolor</i>) forests, sheoak (<i>Allocasuarina fraseriana</i>) dominated woodlands, and other stands of myrtaceous trees growing near swamps, watercourses or floodplains.
weeds	means any plant – <ol 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.
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</i>

Term	Definition
	<i>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> .

END OF CONDITIONS

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Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

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

3 March 2021

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below

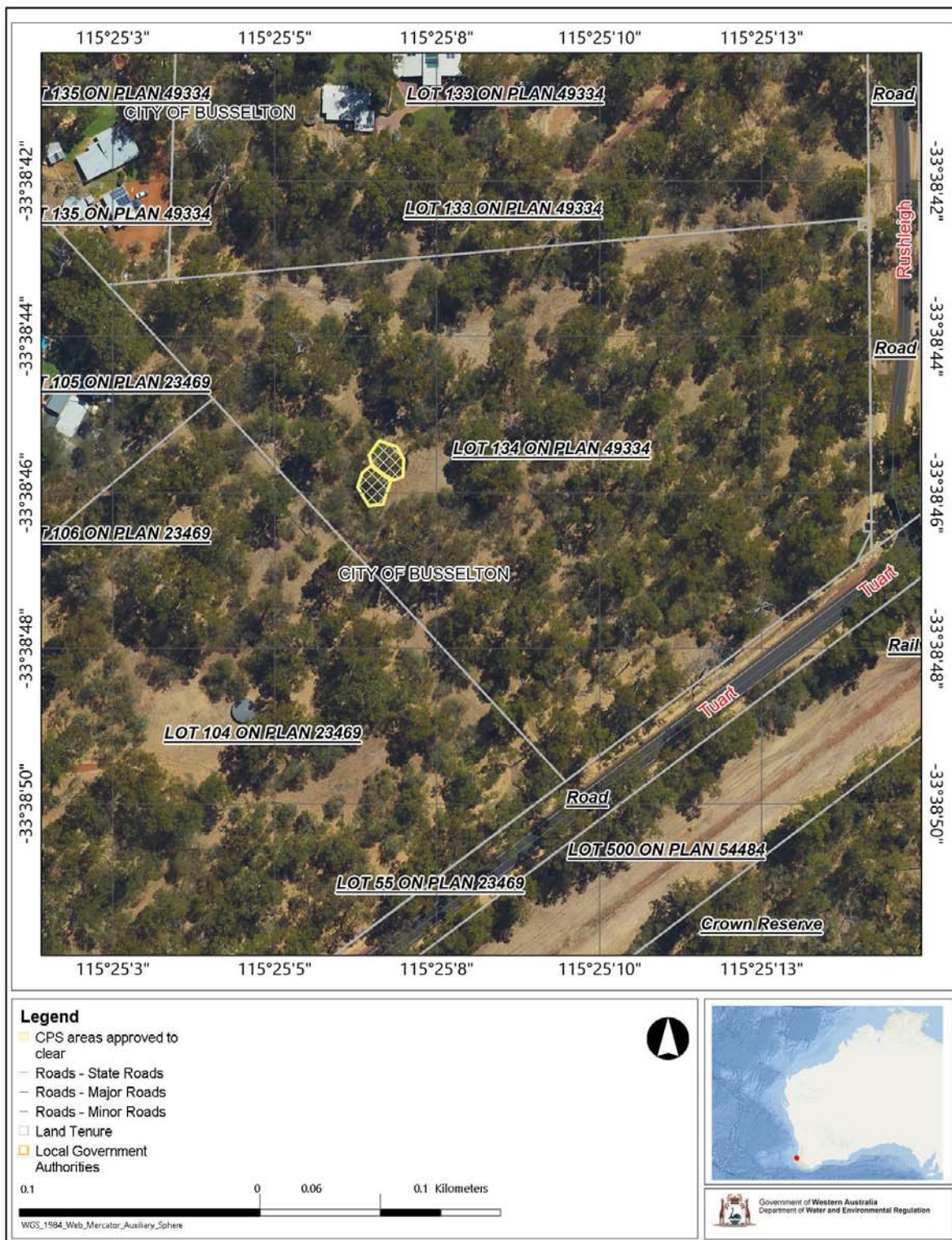


Figure 1: Map of the boundary of the area within which clearing may occur.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9152/1
Permit type:	Area permit
Applicant name:	Kyle Richard Kophamel and Alana Jane Kophamel
Application received:	17 December 2020
Application area:	Two native trees
Purpose of clearing:	Construction of residential dwelling and shed
Method of clearing:	Mechanical
Property:	Lot 134 on Deposited Plan 49334
Location (LGA area/s):	City of Busselton
Localities (suburb/s):	Reinscourt

1.2. Description of clearing activities

The vegetation proposed to be cleared is two *Eucalyptus gomphocephala* (Tuart) trees contained within a single area, Lot 134 on Deposited Plan 49334. (see Figure 1, Section 1.5). The application is to clear trees within a building envelope for the construction of a residential dwelling and shed.

1.3. Decision on application

Decision:	Granted
Decision date:	3 March 2021
Decision area:	Two native trees, as depicted in Section 1.5 below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration this application is for the construction of a residential dwelling with other remnant vegetation being retained on the lot and that the proposed clearing comprises two individual trees.

The assessment identified that the proposed clearing will result in:

- potential impact to individual fauna species that may utilise the application area;
- the loss of native vegetation that is suitable habitat for threatened species of Black Cockatoo (*Calyptorhynchus sp.*), Western Ringtail Possum (*Pseudocheirus occidentalis*), and South Western Brush-tailed Phascogale (*Phascogale tapoatafa wambenger*); 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 have long-term adverse impacts on the continuation of Threatened or Priority Ecological Communities and flora or fauna of conservation significance. The proposed clearing can be managed to a degree that is unlikely to lead to an unacceptable risk to environmental values.

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

- avoid, minimise to reduce the impacts and extent of clearing;
- implement hygiene measures to minimise the risk of the introduction and spread of weeds and dieback; and
- engage a fauna specialist to inspect the area immediately prior to, and for the duration of clearing activities for the presence of Western Ringtail Possums.

1.5. Site map

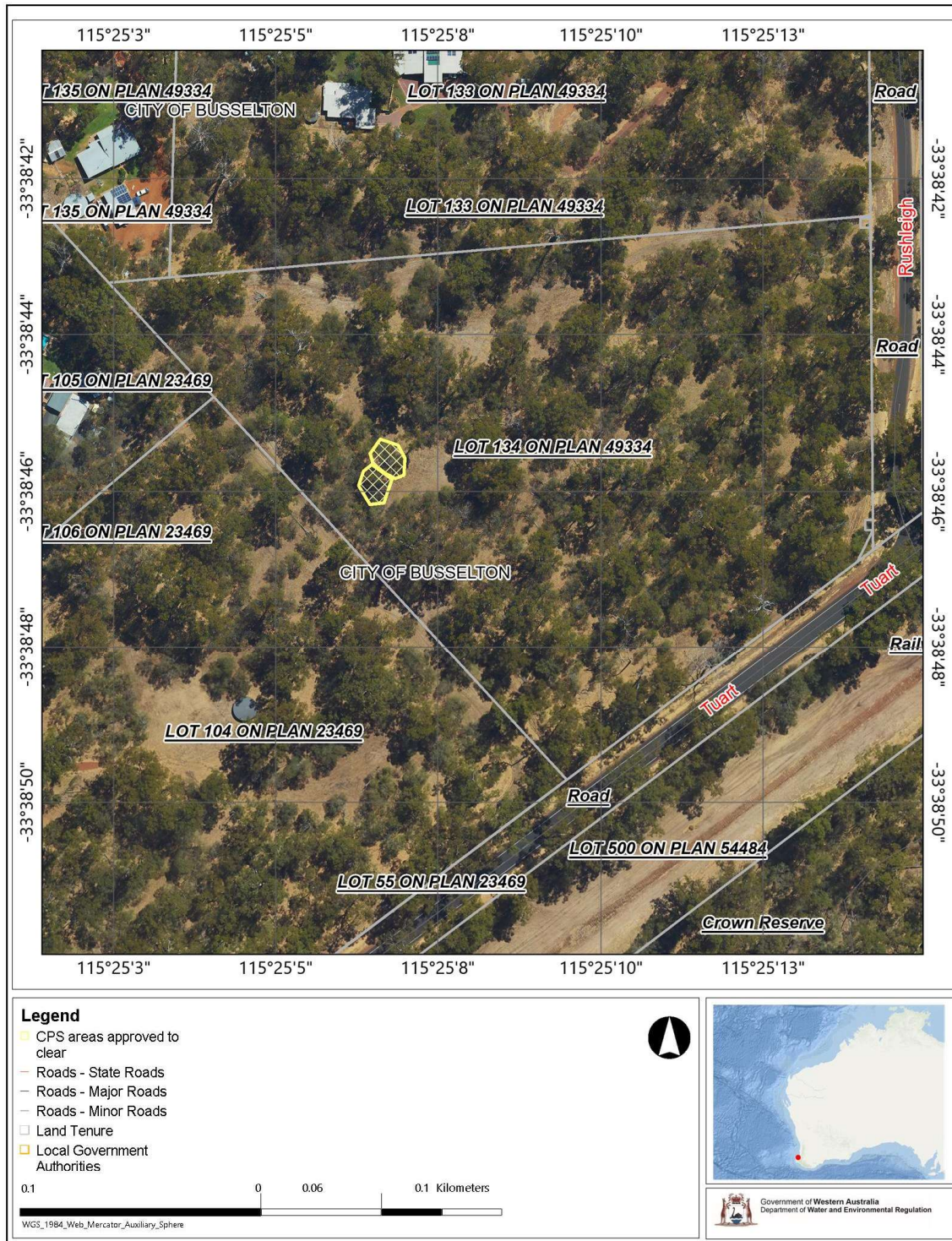


Figure 1: Map of the application area. The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

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)
- *Planning and Development Act 2005* (WA) (P&D Act)

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Given the minimal extent of the proposed clearing, the Delegated Officer was satisfied that avoidance and minimisation measures to mitigate potential impacts on environmental values were not necessary in this instance.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing are limited and are able to be managed through adequate hygiene practices and through the presence of a fauna spotter prior to, and at the time of clearing to identify the presence of Western Ringtail Possums. 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. Environmental Value: Biological values (Flora and Vegetation) - Clearing Principles (a) and (d)

Assessment:

The application area is within a mapped occurrence of '*Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region*' (Banksia Woodland) listed by DBCA as a Priority 3 Priority Ecological Community (PEC) and synonymous with the threatened ecological community (TEC) listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Banksia Woodlands vary in structure, however, are united in having a generally dominant Banksia component, inclusive of at least one of four key species, *Banksia attenuata* (Candlestick Banksia), *B. menziesii* (Firewood Banksia), *B. prionotes* (Acorn Banksia), and *B. ilicifolia* (Holly-leaved Banksia) (DEE, 2016).

Representative photos and information supplied by the applicant (see appendix E) indicate the two trees to be cleared are *Eucalyptus gomphocephala* (Tuart) and vegetation surrounding these trees has largely been cleared with little to no understory vegetation, or is comprised of midstorey comprising *Agonis flexuosa* (peppermint) tree with no Banksia species mapped or visible from supplied photographs (Applicant, 2020; Applicant 2021).

Given the trees to be cleared are not representative of the key dominant species that comprise this community, and the degraded and cleared nature of the immediate landscape that is devoid of representative herbaceous and shrub layer species, the application area is not representative of this Priority Ecological Community in which it is mapped (DEE, 2016).

The proposed clearing is within a mapped occurrence of the *Tuart Woodland*, listed by DBCA as a Priority 3 PEC under the BC Act and as a TEC listed as Critically Endangered under the EPBC Act. Tuart Woodlands are

characterised by the defining feature of a dominance of Tuart. There may be substantial midstorey, for example, dominated by *Agonis flexuosa* with an often relatively open understorey (TSSC, 2019). TSSC 2019 states condition thresholds of Tuart Woodland patches for classification and subsequent protection under the EPBC act (TSSC, 2019). Given the completely degraded condition (poor condition) of the area, lack of habitat in the form of tree hollows or fallen wood, signs of disturbance and lack of understorey diversity, it is unlikely this patch would be considered for protection as a TEC under the EPBC Act.

Conclusion

Based on the above assessment, the vegetation proposed to be cleared is not representative of the *Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region* PEC of which it is mapped. The vegetation to be cleared does not constitute a significant part of the Tuart Woodland PEC, particularly given its completely degraded condition and the small number of trees to be cleared. As such, the impacts of the proposed clearing will be minimal and not represent a significant residual impact, or be detrimental to the Tuart Woodland PEC.

Conditions

No flora management conditions required.

3.2.2. Environmental Value: Biological values (Fauna) - Clearing Principle (b)

Assessment:

The area around the base of the trees proposed to be cleared can be classified as Completely Degraded (see appendix C.1 and E) with minimal to no under or midstorey vegetation present. As a result of this, it is unlikely that habitat suitable for small terrestrial fauna, such as *Setonix brachyurus* (Quokka) and *Isoodon fusciventer* (Quenda), is present or available and the removal of the trees is highly unlikely to significantly impact any individuals that may be present.

There are 52 records in the local area of *Phascogale tapoatafa wamenger* (Phascogale) with the nearest record located approximately 520 m from the proposed clearing. Phascogales have been observed in dry sclerophyll forests that are open with minimal understorey vegetation, which is similar to the application area. Based on photographs provided by the applicant, no hollows were observed within the trees proposed to be cleared. It is unlikely that individuals will be present, or that the felling of these trees will significantly impact on the species.

The application area is located within an area mapped as being suitable habitat for *Pseudocheirus occidentalis* (Western Ringtail Possum). The Western Ringtail Possum Recovery Plan (DPAW, 2017) lists the vegetation type of the application area (Peppermint/Tuart forests on the southern extremity of the Swan Coastal Plain) as one of three key management zones. Habitat crucial for the survival of Western Ringtail Possums (WRP) comprises of long unburnt mature remnant peppermint woodlands (DPAW, 2017). While Tuarts are not the preferred habitat type of WRP, given the surrounding vegetation comprises peppermint trees and the close proximity of WRP records (nearest is 20 m from application area), the presence of WRPs within the application area cannot be ruled out. As such, a fauna spotter should be present prior to, and during any clearing activities to ensure no WRPs are present, and if so, are relocated to suitable habitat. This is in line with advice note 10 of development approval DA20/0907 from the City of Busselton (see Section 3.3).

The application area is mapped within a known Carnaby's Cockatoo breeding area and the trees to be cleared have a Diameter at Breast Height (DBH) of greater than 50 cm which indicates their suitability for containing hollows (DSEWPC, 2012). Tuart is a known species used by *Calyptorhynchus sp.* for breeding. Information supplied by the applicant indicates that the DBH of the two trees were 63 cm and 92 cm (Applicant, 2021). Photographs of the tree canopies from multiple angles were supplied by the applicant and assessed to determine if hollows suitable for breeding were present. No hollows were observed from these photographs.

Foraging by Black Cockatoos usually occurs within 6 km of a night roost site and within 6-12 km of a nesting site while breeding. Tuart is not a preferred food source for Black Cockatoos with preference usually on *Eucalyptus marginata* (Jarrah), *Corymbia calophylla* (Marri), and proteaceous species (DSEWPC, 2012). There are no confirmed Black Cockatoo roost sites within 12 km of the application area.

Given there are no confirmed roost sites within 12 km of the application area, there are no observable hollows, Tuart not being a preferred foraging source, and the minimal clearing proposed, it is unlikely that the removal of these two trees will pose a significant risk to *Calyptorhynchus sp.*

Conclusion

The proposed clearing may result in impacts to fauna species present at the time of clearing, in particular, WRPs. Based on the above assessment, the proposed clearing will not result in a significant residual impact to these species or their associated habitats, however, a fauna specialist should be engaged to observe for the presence of WRPs at the time of clearing.

Extensive areas of remnant vegetation which provide suitable habitat for conservation significant fauna can be found in the Ludlow State Forest and Tuart Forest National Park, both located within close proximity of the application area.

Conditions

The permit holder must engage a fauna specialist to inspect the area immediately prior to, and for the duration of clearing activities for the presence of WRPs.

3.3. Relevant planning instruments and other matters

The City of Busselton has advised that the proposed clearing is consistent with the Shire's Local Planning Scheme and did not have any objections to the proposed clearing. The Shire also advised that development approval was granted for the purpose of constructing a single house, ancillary accommodation, and outbuilding on 19 February 2021 (CoB 2021a; CoB 2021b).

As per City of Busselton development application approval (DA20/0907) advice note 10, the applicant is advised that a section 40 ministerial authorisation under the *Biodiversity Conservation Act 2016* to take or disturb threatened fauna is to be obtained as key habitat for the Western Ringtail Possum forms part of the clearing involved in the development application. A fauna handler is required to be onsite prior to and during any clearing and is required to provide a post-clearing report to the Department of Biodiversity, Conservation, and Attractions that includes the numbers of adult or juvenile possums observed, taken or disturbed, as well as any injuries or fatalities and location of fauna after the clearing has occurred (CoB 2021b).

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
Applicant provided photos and dimension of trees proposed to be cleared.	Photos were inspected to determine if hollows were present that could support the breeding of threatened fauna. Although the diameter of trees at breast height was greater than 50 cm, signifying a higher potential for development of nesting hollows, no evidence of hollows was observed from the photos provided.

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of an undeveloped 4.05 hectare block of native vegetation in the intensive land use zone of Western Australia. It is surrounded by developed and undeveloped rural residential blocks to the north and west, and remnant vegetation to the east and south, with Tuart Drive adjacent to the immediate south.</p> <p>The proposed clearing area contributes to the important South West Regional Ecological Linkage and is part of a large area of native vegetation among a largely developed landscape.</p> <p>Spatial data indicates the local area 10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 13.2 per cent of the original native vegetation cover.</p>
Ecological linkage	The application area is approximately 870m and 1,400 m from mapped portions of the South West Regional Ecological Linkage and is part of a contiguous area of vegetation, of which, the mapped ecological linkage is a part.
Conservation areas	The application area does not intersect any conservation area. It is located approximately 200 m from areas of the Tuart Forest National Park and approximately 700 m from a Class A Conservation Reserve. The local area contains 13 Class A and 249 Class C reserves.
Vegetation description	<p>Photographs supplied by the applicant indicate the two trees proposed to be cleared are mature <i>Eucalyptus gomphocephala</i> (Tuart) with minimal to no understory vegetation at their base. The limited understory is comprised of mostly exotic species. Representative photos are available in Appendix E.</p> <p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> Karrakatta Complex-Central and South, which is described as predominantly open forest of <i>Eucalyptus gomphocephala</i> (Tuart) – <i>Eucalyptus marginata</i> (Jarrah) – <i>Corymbia calophylla</i> (Marri) and woodland of <i>Eucalyptus marginata</i> (Jarrah) -<i>Banksia</i> species. <i>Agonis flexuosa</i> (Peppermint) is co-dominant south of the Capel River (Heddlé, 1980). <p>The mapped vegetation type retains approximately 23.49 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is in Completely Degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> 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.

Characteristic	Details
	The full Keighery (1994) condition rating scale is provided in Appendix D. Representative photos are available in Appendix E.
Climate	The mean annual rainfall for the application area is 800 mm. The mean annual evapotranspiration is 800 mm.
Topography	The application area is between approximately 5 – 10 m AHD
Soil description	The soil is mapped as 211SpLD1 (Ludlow flats Phase) described as flats and very low dunes. Deep yellow brown siliceous sands over limestone (i.e. Spearwood Sands).
Land degradation risk	10-30% of the map unit has high to extreme phosphorus export risk >70% of map unit has a high subsurface acidification risk or is presently acid >70% of map unit has a high to extreme wind erosion risk
Waterbodies	The desktop assessment and aerial imagery indicated that the application area does not intersect any waterbodies or waterways. The nearest waterbody to the application area is the Vasse Estuary located approximately 650 m to the north. The application area is approximately 200 m from the Vasse-Wonnerup RAMSAR Wetland System.
Hydrogeography	The application area is located within the Busselton-Capel Groundwater Area proclaimed under Section 26B (1) of the <i>Rights in Water and Irrigation Act 1914</i> .
Flora	The local area contains 389 records of 69 species of conservation significance, 13 of which occur on the same soil type as the application area. The closest record to the application area is a <i>Cardamine paucijuga</i> located approx. 1.3 km away. The most common species is <i>Verticordia plumose var. vassensis</i> with 48 records. There are no records of priority flora within 1 kilometre of the application area.
Ecological communities	The application area intersects two Priority Ecological Communities, the Priority 3 Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region (Banksia WL SCP) and the Priority 3 Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain (Tuart Woodlands). The local area contains 410 mapped Priority or Threatened Ecological Communities comprising 11 vegetation types. The most common is Banksia Dominated Woodlands with 309 mapped areas followed by <i>Eucalyptus rudis</i> (flooded gum), <i>Corymbia calophylla</i> , <i>Agonis flexuosa</i> Closed Low Forest (near Busselton) with 36 records.
Fauna	The local area contains 5,711 records from 61 species of fauna of conservation significance. The most common species is <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum) with 4,837 records, followed by <i>Tringa nebularia</i> (Common Greenshank) with 127 records. The lot in which the proposed clearing is located contains 10 records of Western Ringtail Possum with the closest record approximately 20 m away. The application area is within an area deemed as highly suitable as Western Ringtail Possum habitat, as well as a confirmed breeding area and an area requiring investigation as feeding habitat for Carnaby's Cockatoo.

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*					
Swan Coastal Plain (SWA)	1,501,221.93	579,813.47	38.62	222,916.97	14.85
Vegetation complex					
Karrakatta Complex-Central and South - 49 (Hedde, 1980)**	53,080.99	12,467.20	23.49	4,282.73	8.07

*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 (Local Area)	Are surveys adequate to identify? [Y, N, N/A]
<i>Calyptorhynchus banksii naso</i> (Forest Red-tailed Cockatoo)	VU	Y	Y	6	29	N/A
<i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo)*	EN	Y	Y	1.7	7	N/A
<i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo)*	EN	Y	Y	2	33	N/A
<i>Phascogale tapoatafa wambenger</i> (South-western Brush-tailed Phascogale)	CD	Y	Y	0.52	52	N/A
<i>Pseudocheirus occidentalis</i> (Western Ringtail Possum)	CR	Y	Y	0.02 (20m)	4837	N/A

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

*21 further records of 'White-tailed Black Cockatoo' are present within the local area that could fall under this species

B.4. Ecological community analysis table

Community name	Conservation status (State)	Conservation status (Commonwealth)	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (local area)	Are surveys adequate to identify? [Y, N, N/A]
Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	N	0	309	N/A
Tuart Woodlands	Priority 3	Critically Endangered	Y	0	34	N/A

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (a):</u> “Native vegetation should not be cleared if it comprises a high level of biodiversity.”</p> <p><u>Assessment:</u></p> <p>The vegetation proposed to be cleared is mapped as both Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region and as Tuart Woodlands, Threatened Ecological Communities, listed under the EPBC 1999 Act as Endangered and Critically Endangered respectively. Given the vegetation condition (completely degraded) the application area is not representative of Tuart Woodland nor would it be afforded protection as such under the EPBC Act. The area proposed to be cleared would be unlikely to support conservation significant flora or provide habitat for conservation significant fauna.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> “Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains potential foraging, roosting, and breeding habitat for <i>Calyptorhynchus sp.</i> (Black Cockatoo), <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum), and <i>Phascogale tapoatafa wambenger</i> (South-western Brush-tailed Phascogale) . Given the surrounding Ludlow State Forest and Tuart Forest National Park, the removal of two trees will not have a significant impact on habitat availability or compromise species conservation status.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (c):</u> “Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</p> <p><u>Assessment</u></p> <p>The two trees proposed to be cleared are not threatened flora species listed under the BC Act 1999. They are also unlikely to contain habitat for threatened flora species listed under the BC Act 1999.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> “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><u>Assessment:</u></p> <p>The application area is not located within any state listed Threatened Ecological Communities.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> “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><u>Assessment:</u></p> <p>The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be significant part of an ecological linkage in the local area and the removal of the two trees will not compromise the linkage function of adjacent areas of vegetation.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> “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.”</p> <p><u>Assessment:</u></p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>Given the distance to the nearest conservation area (approximately 200 m), and the roads buffering them from the application area, the proposed clearing is not likely to have an impact on the environmental values of adjacent and/or nearby conservation areas.</p>		
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Given that no watercourses or wetlands are recorded within the application area, and the nearest wetland is located approximately 420 m north, the proposed clearing is unlikely to impact on or off-site hydrology and water quality.</p>	Not likely to be at variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>Given the proposed clearing is minimal in that it consists of the removal of two trees, and the highly vegetated area surrounding the application area, the 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>Although the application is within the proclaimed Busselton-Capel Groundwater Area, the small amount of vegetation proposed to be cleared will not intersect groundwater. Public Drinking Water Sources Areas are recorded within 4 kilometres of the application area, however, 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>Given the low quantity of vegetation to be cleared and that there are no watercourses or wetlands within the application area, the proposed clearing is unlikely to contribute to waterlogging. The application area is not located within any floodway, flood fringe or flood development control area and is approximately 420 m from the nearest mapped wetland.</p>	Not likely to be at variance	No

Appendix D. Vegetation condition rating scale

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

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

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

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

Appendix E. Photographs of the vegetation



Figure 2: Base of Tuart 1 to be cleared showing minimal understorey vegetation and presence of exotic species (Applicant, 2021).



Figure 3: Representative photo of the canopy structure of Tuart 1 to be removed. Taken from a westerly direction (Applicant, 2021)



Figure 4: Photograph of base Tuart 2 to be cleared showing lack of understorey vegetation and presence of exotic species. (Applicant, 2021).

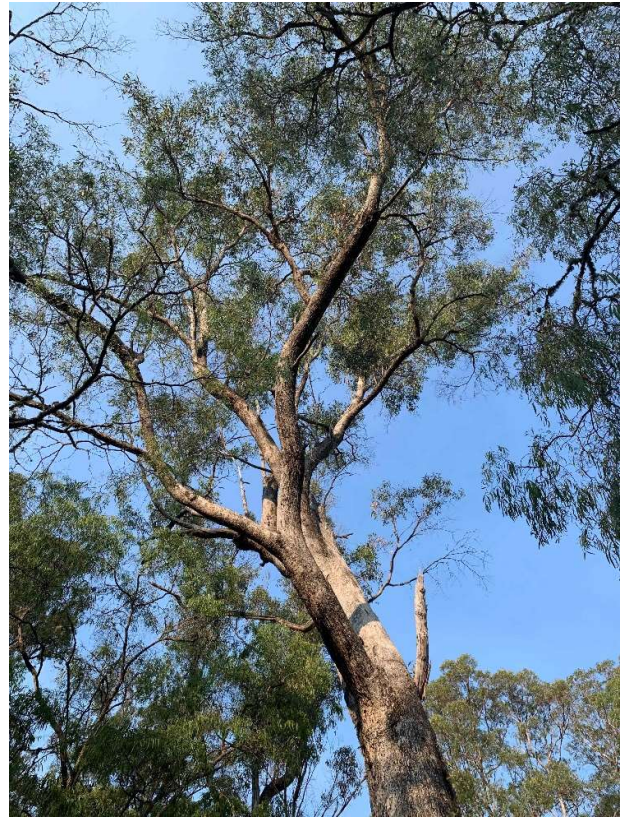


Figure 5: Representative photo of the canopy structure of Tuart 2 to be removed. Taken from a westerly direction (Applicant, 2021)

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)
- Carnaby's Cockatoo Roost Area Confirmed
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- FPM 1 in 100 (1%) AEP Floodway and Flood Fringe Area
- FPM 1 in 100 (1%) AEP Floodplain Development Control Area
- Geomorphic Wetlands, Swan Coastal Plain
- 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
- South West Regional Linkages
- Western Ringtail Possum Habitat Suitability

Restricted GIS Databases used:

- Black Cockatoo Roost sites
- 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

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