



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9112/1
File Number: DWERVT6956
Duration of Permit: From 28 May 2021 to 28 May 2023

PERMIT HOLDER

City of Albany

LAND ON WHICH CLEARING IS TO BE DONE

Moyle Road reserves (PIN 11463071 and PIN 11464357)
Bettys Beach Road reserve (PIN 11464358)

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.257 hectares of native vegetation 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); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 1 of this permit; (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.
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)
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.
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*

5 May 2021

SCHEDULE 1

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

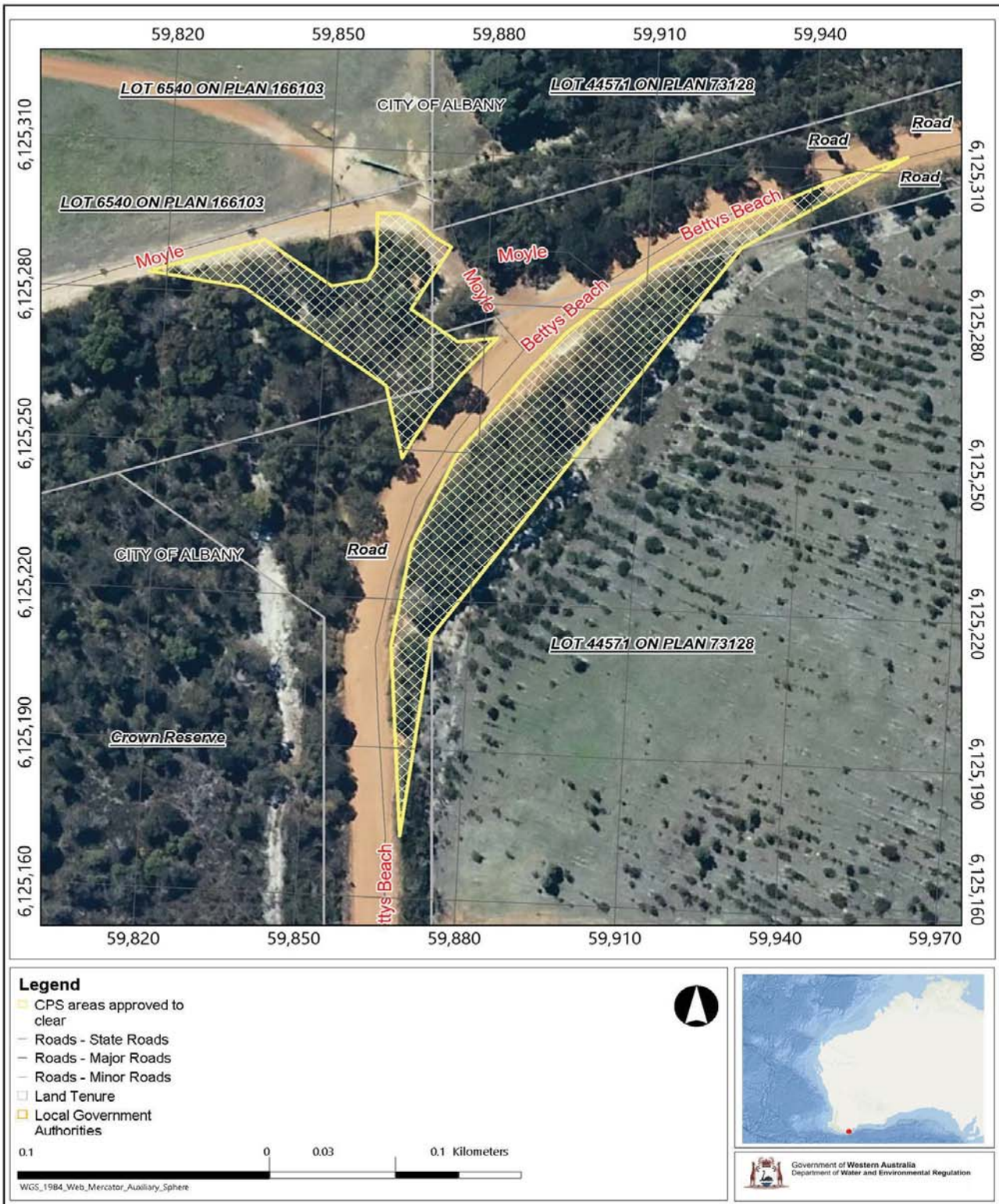


Figure 1: Map of the boundary of the area within which clearing may occur.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9112/1
Permit type:	Area permit
Applicant name:	City of Albany
Application received:	12 November 2020
Application area:	0.257 hectares of native vegetation
Purpose of clearing:	Road intersection realignment
Method of clearing:	Mechanical
Property:	Moyle Road reserves (PIN 11463071 and PIN 11464357) Bettys Beach Road reserve (PIN 11464358)
Location (LGA area/s):	City of Albany
Localities (suburb/s):	Manypeaks

1.2. Description of clearing activities

The vegetation proposed to be cleared is 0.257 ha of native vegetation distributed across two separate areas for the purpose of a road intersection realignment. (see Figure 1, Section 1.5).

1.3. Decision on application

Decision:	Granted
Decision date:	5 May 2021
Decision area:	0.257 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

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

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix H.1), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the purpose of the clearing is to improve community safety by upgrading visibility and the intersection of Betty's Beach Road and Moyle Road.

The assessment identified that the proposed clearing may result in:

- the loss of native vegetation that is suitable habitat for the Western Ringtail Possum (*Pseudocheirus occidentalis*)

- 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 minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on environmental values.

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

- avoid and minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity
- engage a fauna spotter to conduct pre-clearing surveys to determine the presence of Western Ringtail Possums and relocate individuals if identified.

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)
- *Conservation and Land Management Act 1984* (WA) (CALM 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)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Given the minimal extent of the proposed clearing, the Delegated Officer was satisfied there was limited scope to further reduce the extent of clearing. The applicant has agreed to engage a qualified fauna spotter prior to and during any clearing activities to avoid and minimise potential impacts to Western Ringtail Possums that may present.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see **Error! Reference source not found.**) identified that the impacts of the proposed clearing present a potential risk to biological values (flora and 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.

The Delegated Officer also had consideration that this project was for the purposing of improving road safety by increasing sight distance around a bend on Betty's Beach Road.

3.2.1. Biological values (Fauna) - Clearing Principles (b)

Assessment

The local area (10 kilometre radius from the centre of the area proposed to be cleared) contains a total of 4,015 records from 46 different species of conservation significant fauna. Assessment of spatial data and databases indicated records of *Pseudocheirus occidentalis* (Western Ringtail Possum), *Atrichornis clamosus* (Noisy Scrub-bird), and *Psophodes nigrogularis* (Western Whipbird) within a 1 km radius of the application areas. Initial assessment



Figure 2: Aerial imagery showing the northern application area (blue-hatched) and the areas of vegetation which will be retained to provide connectivity across Moyle Road.

identified potential impacts to these species as a result of the proposed clearing, as such, further advice was sought from the Department of Biodiversity, Conservation, and Attractions (DBCA 2021). The desktop assessment identified that the application areas partially intersect areas mapped as Black Cockatoo feeding areas.

Black Cockatoos

Assessment of photographs supplied by the applicant (see Appendix F) indicate the potential for Black Cockatoos to utilise species within the application area for foraging, breeding, and roosting (*Allocasaurina sp.*, *Eucalyptus sp.*). Given the size of the trees, it is unlikely that they will contain hollows which could be utilised for breeding purposes.

The area surrounding the application areas contains a significant amount of area mapped as feeding habitat for Black Cockatoos (see Figure 3). The clearing area represents an extremely small proportion (0.002%) of the mapped Beard Vegetation Association (East Kalgan). Given the small scale of the proposed clearing (0.257 ha) and the extent of foraging resources available in adjacent remnant vegetation, the clearing is unlikely to present a significant impact to the local availability of foraging and roosting resources for Black Cockatoos, or impact on their ability to move through the landscape

Western Ringtail Possum (WRP)

Assessment of spatial data identified 64 records of Western Ringtail Possum within the local area, with the nearest record approximately 200 m north-west of the application area. Assessment of supplied photographs (Applicant, 2021) and advice from DBCA (2021) indicated the vegetation within the application area may be utilised by WRP for supporting habitat (connectivity, dreys).

The clearing application area to the south is unlikely to result in significant loss of connectivity, however, the northern application area is within a pinch point between the coastal macro corridor and the King's Creek vegetation, where maintaining connectivity is important (DBCA 2021).

The configuration of the northern application area (see Figure 2) allows for the retention of some vegetation on either side of the area proposed to be cleared. This will reduce the potential distance between remnants along Moyle Road post-clearing and provides a potential refuge and stepping-stone should fauna be moving between remnants.

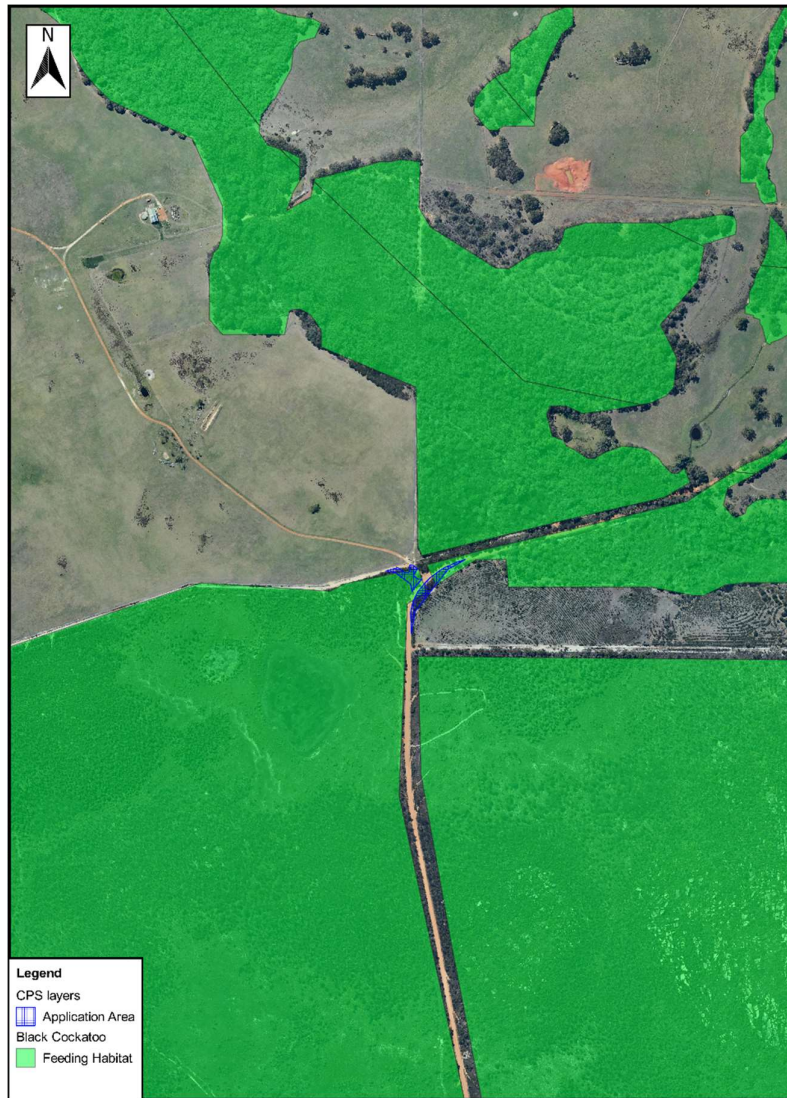


Figure 3: Aerial imagery showing the extent of mapped Black Cockatoo feeding habitat surrounding the application areas.

Given the potential for WRP occurrence within the application areas and utilisation of vegetation as supporting habitat, slow directional clearing and the presence of a fauna spotter is required to mitigate and minimise any potential impacts to the WRP.

Noisy Scrub-bird and Western Whipbird

The local area contains 650 records of Noisy Scrub-bird and 356 records of Western Whipbird. There are 5 records of the Noisy Scrub-bird and 1 record of the Western Whipbird within 1 km of the application areas. On the mainland, the Noisy Scrub-bird occurs as a single subpopulation from Two Peoples Bay Nature Reserve to Cheyne Beach. The Noisy Scrub-bird has limited capacity for flight and is unable to sustain flight for more than a few metres. Dispersal occurs along corridors of suitable closed vegetation, with birds readily crossing roads but not cleared land (TSSC 2018). The distribution of the Western Whipbird is now only within conservation reserves. Given the proximity of records to the application area, advice was sought from DBCA.

Advice from DBCA (2021) identified that the vegetation within the clearing footprint is not suitable for Noisy Scrub-bird or Western Whipbird. Similar to the Western Ringtail Possum, the Noisy Scrub-bird faces potential connectivity

issues resulting from the northern clearing area. The configuration of this application area (see Figure 3) provides for the retention of vegetation to allow refuge from individuals looking to cross Moyle Road.

Given that Western Whipbird only occur in conservation reserves, the vegetation is not suitable as Western Whipbird habitat, and given the proclivity for Noisy Scrub-bird to readily cross roads, the proposed clearing is unlikely to significantly impact on the Noisy Scrub-bird or its ability to move through the landscape.

Conclusion

Based on the above assessment, the proposed clearing will not significantly impact on the Noisy Scrub-bird, Western Whipbird or threatened species of Black Cockatoo, however, there is potential for impact on individuals of Western Ringtail Possum, should they be present at the time of clearing.

It is considered that the impacts of the proposed clearing on Western Ringtail Possums can be managed by engaging a fauna spotter to survey the application areas prior to and during clearing, and undertaking slow directional clearing to allow fauna to move into adjacent vegetation. The implementation of these management measures will ensure that the clearing does not result in a significant residual impact to the Western Ringtail Possum.

Conditions

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

- Slow, directional clearing allowing fauna to move into adjacent vegetation ahead of the clearing activity to minimise impact to individuals
- Western Ringtail Possum condition requiring the presence of a fauna spotter prior to, and during any clearing activities.

3.2.2. Biological values (Flora) - Clearing Principles (a)

Assessment

A review of photographs supplied by the applicant (see appendix F) indicates the condition of the vegetation proposed to be cleared to be in good to degraded condition. The presence of exotic species and disturbance from the adjacent Bettys Beach and Moyle Roads has impacted on the condition of the vegetation.

A mapped occurrence of the Priority 1 *Banksia coccinea* Shrubland Ecological Community is located within close proximity (~10 m) of the southern application area (see Figure 4). The assessment of the photographs, spatial data, as well as advice from the Department of Biodiversity, Conservation, and Attractions (DBCA, 2021), indicates that no known Priority Ecological Communities (PEC) are intersected by the application areas.

Conclusion

Based on the above assessment and the road buffer between the southern application area and mapped PEC, the clearing will not have a significant impact on PECs. Any potential impact from the introduction of weeds and dieback can be minimised and mitigated through appropriate hygiene practices.

Conditions

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

- Take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback

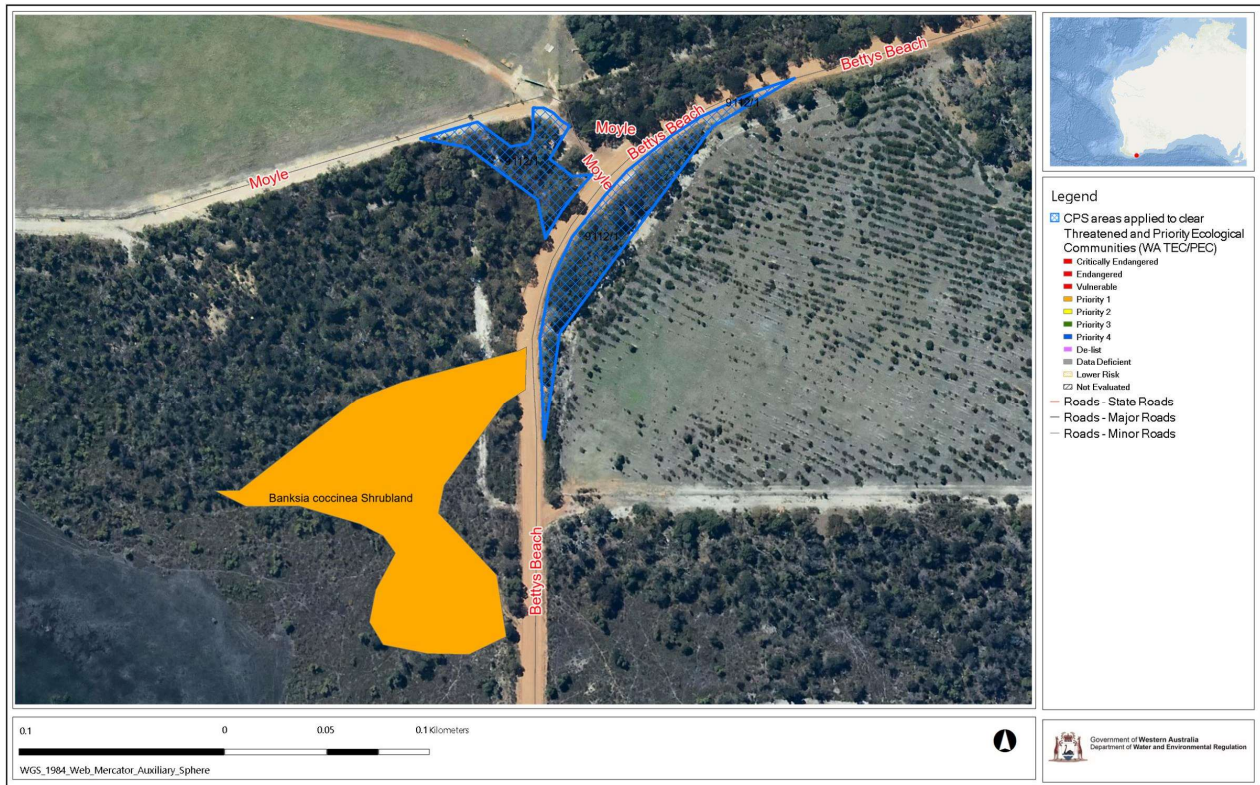


Figure 4: Aerial imagery showing the proximity of a mapped Priority Ecological Community (*Banksia coccinea* Shrubland) to the application areas.

3.3. Relevant planning instruments and other matters

This application was found to be valid in accordance with sections 51E(1) and (2) of the EP Act and was advertised for public comment on 30 November 2020 for 21 days. No public submissions were received.

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 of the area proposed to be cleared.	Photos allowed the condition, structure, and composition of the relevant vegetation to be assessed

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is a 0.257 hectare isolated patch of native vegetation in the intensive land use zone of Western Australia. It is surrounded by native vegetation immediately to the north-east and south-west and cleared and semi-cleared pasture to the south-east and north-west. Swathes of native vegetation and agricultural land comprise large parts of the local area (10 kilometre radius from the centre of the area proposed to be cleared). The proposed clearing area is part of a large area of vegetation.</p> <p>Spatial data indicates the local area retains approximately 60 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The application area is located within the South Coast Macro corridor and is located approximately 750 m from the mapped South Coast Ecological Linkage.</p> <p>The northern application area may provide some ecological linkage function for fauna moving through the landscape as it is within a pinch point between the coastal macro corridor and the King's Creek vegetation.</p>
Conservation areas	<p>There are no known mapped conservation areas intersecting the application area, however, there are two class C reserves adjacent. The local area contains the Waychinicup National Park, located 1.9 km away as well as the Mount Manypeaks and Two Peoples Bay Nature reserves.</p>
Vegetation description	<p>Photographs supplied by the applicant indicate the vegetation within the proposed clearing area consists of Sheoak and Eucalypt canopy with an understorey of sedges, <i>Acacia sp.</i> and <i>Xanthorrhoea sp.</i> Representative photos are available in Appendix F.</p> <p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> Beard 978, which is described as low forest; jarrah, <i>Eucalyptus staeri</i> and <i>Allocasaurina fraseriana</i> (Shepherd et al, 2001). <p>The mapped vegetation type retains approximately 56 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 Good to Degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> Good Condition: 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 Condition: 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. <p>The full Keighery (1994) condition rating scale is provided in Appendix E.</p>

Characteristic	Details
	Representative photos are available in Appendix F.
Climate	Rainfall: 800 mm Evapotranspiration: 800 mm
Topography	The elevation of the application area ranges from 50 m AHD in the north-east portion to over 60 m AHD in the southern portion.
Soil description	The soil is mapped as 242KgDMc (Dempster crest Phase) described as sands and laterite on elongate crests; Jarrah-Albany Blackbutt-Marri forest
Land degradation risk	Flood risk: <3% of the map unit has a moderate to high flood risk Salinity risk: <3% of the map unit has a moderate to high flood risk Phosphorous export risk: 3-10% of map unit has a high to extreme phosphorous export risk Subsurface acidification risk: >70% of the map unit has a high subsurface acidification risk or is presently acid Water erosion risk: <3% of map unit has a high to extreme water erosion risk Wind erosion risk: >70% of map unit has a high to extreme wind erosion risk
Waterbodies	The desktop assessment and aerial imagery indicated that no waterbodies transect the application area. A non-perennial wetland is located approximately 135 m from the application area.
Hydrogeography	The application area is not located within any proclaimed surface or groundwater areas, or areas administered under the <i>Country Areas Water Supply Act 1947</i> .
Flora	There are 190 records from 51 species of conservation significant flora within the local area, with 11 found on the same soil type (242kgDMc) as the application area. The nearest record is <i>Thomasia solanacea</i> , a priority 4 species, located approximately 360 m from the application area. Given the vegetation type and condition, as well as other habitat features present within the application areas, it is unlikely that any priority or threatened flora previously recorded in the local area would be present in the clearing areas.
Ecological communities	The application area does not intersect any mapped Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs). There are 99 mapped occurrences of PECs within the local area, the nearest being a priority 1 <i>Banksia coccinea</i> Shrubland located approximately 10 m away, on the other side of Bettys Beach Road.
Fauna	The local area contains a total of 4,015 records from 46 different species of conservation significant fauna. <i>Setonix brachyurus</i> (Quokka) is the most common recorded species with 1,351 records, with <i>Atrichornis clamosus</i> (Noisy Scrub-bird) comprising 650 records. The nearest record of conservation significant fauna is <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum), located approximately 170 m from the application area. There are four <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo) roosting sites within the local area. The closest site is recorded approximately 2.3 km away. The application areas partially intersect mapped Black Cockatoo feeding areas.

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion					
Jarrah Forest*	4,506,660.25	2,399,838.15	53.25	1,673,614.25	37.14
Beard Vegetation Association					
Beard vegetation association 978 *	53,016.57	18,751.03	35.37	5,024.08	9.48
Beard Vegetation Association within IBRA Bioregion					
Beard Vegetation Association 978 (East Kalgan)*	17,859.23	10,005.51	56.02	2,553.92	14.30

*Government of Western Australia (2019)

C.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)	May occur within application area? [Y/N]
<i>Calyptorhynchus baudinii</i>	EN	Y	Y	2.3	2	Y
<i>Calyptorhynchus latirostris</i>	EN	Y	Y	1.2	25	Y
<i>Pseudocheirus occidentalis</i>	CR	Y	Y	0.243	64	Y
<i>Psophodes nigrogularis nigrogularis</i>	EN	Y	Y	1.016	356	Y
<i>Atrichornis clamosus</i>	EN	Y	Y	0.215	650	Y
<i>Potorous gilbertii</i>	CR	N	Y	6	21	N
<i>Setonix brachyurus</i>	V	N	N	2	1351	N
<i>Isodon fusciventer</i>	P4	N	N	1.7	569	N

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

C.4. Ecological community analysis table

Community name	State Conservation status	Commonwealth Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (Local Area)
<i>Taxandria spathulata</i> Heath	P3	EN	N	N	N	1.6	6
<i>Banksia coccinea</i> Shrubland/ <i>Melaleuca striata</i> / <i>Leucopogon flavescens</i> Heath	P1	EN	Y	Y	Y	0.006	40

Community name	State Conservation status	Commonwealth Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (Local Area)
<i>Banksia coccinea</i> Shrubland/ <i>Eucalyptus staeri</i> /Sheoak Open Woodland	P1	EN	Y	Y	Y	0.400	51

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

Appendix D. 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> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not intersect any federally listed threatened ecological communities or state listed priority ecological communities. There are several state listed priority ecological communities and federally listed threatened ecological communities in close proximity of the application area. Given the condition range of the vegetation, the application areas are unlikely to provide critical habitat for contain conservation significant flora or represent high biodiversity values. Vegetation within the application areas represents suitable habitat for Western Ringtail Possums, however, the small amount of vegetation to be cleared is unlikely to represent an area of high biodiversity relative to other areas of remnant vegetation within the local area.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, 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 suitable habitat for Western Ringtail Possum (WRP). Advice from the Department of Biodiversity, Conservation and Attractions indicates WRP may utilise the vegetation as supporting habitat (connectivity and possible nesting in dreys) within the clearing areas. The clearing may result in impacts to WRP individuals that may be present at the time of clearing.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, 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>Desktop assessment identified one species (<i>Andersonia pinaster</i>) listed as Threatened under the BC Act within the local area which occurs within the same soil type as that found within the application area. Given this species occurs on granite outcrops, winter wet slopes and hills (Western Australian Herbarium, 1998), it is unlikely to occur within the application areas.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<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 intersect any mapped threatened ecological communities listed under the BC Act within the local 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 native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.</p>	Not likely to be at variance	No
<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 (1.9 km), 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		
<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>The application area does not intersect any wetlands or watercourses. A mapped non-perennial swamp/wetland is located approximately 130 m to the south-west and King Creek approximately 430 m north-east along Betty’s Beach Road. Given the amount of clearing and the distance to watercourses or wetlands, it is unlikely the clearing will have a significant impact on watercourse or wetland hydrology, or riparian vegetation.</p>	Not 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>The mapped soils are highly susceptible to wind and subsurface acidification risk. Noting the extent and location of the application area, 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> There are no Public Drinking Water Source Areas within 2 kilometres, although, the application area is located within an unproclaimed groundwater area (Karri). A small non-perennial swap is located approximately 130 m from the application area and King Creek located approximately 430 m away. Given this, the clearing is unlikely to impact surface or groundwater quality.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</p> <p><u>Assessment:</u></p> <p>Given the small amount of clearing and that only one watercourse and one non-perennial wetland occur within close proximity of the application area, the proposed clearing is unlikely to contribute to or exacerbate any instance of flooding. The application area is not within any mapped floodway, flood fringe, or flood development control area.</p>	Not likely to be at variance	No

Appendix E. Vegetation condition rating scale

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

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

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

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

Appendix F. Representative photographs of the vegetation













Appendix H. Sources of information

H.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)
- 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)
- 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)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

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)

H.2. References

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