



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 10622/1
File Number: DWERVT15244
Duration of Permit: From 25 December 2024 to 25 December 2026

PERMIT HOLDER

Tallawanna Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 5073 on Deposited Plan 22925, Yeagarup

AUTHORISED ACTIVITY

The permit holder must not clear more than 1.21 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 southwest to northeast to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

4. 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 GDA2020, 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; (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 2; and (g) actions taken in accordance with condition 3.

5. Reporting

The permit holder must provide to the *CEO* the records required under condition 4 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
black cockatoo habitat trees	means trees that have a diameter, measured at 130 centimetres from the base of the tree, of 50 centimetres or greater (or 30 centimetres or greater for <i>Eucalyptus salmonophloia</i> or <i>Eucalyptus wandoo</i>) that contain hollows suitable for breeding by black cockatoo species.
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.
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.
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



Meenu Vitarana
Manager

NATIVE VEGETATION REGULATION

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

29 November 2024

SCHEDULE 1

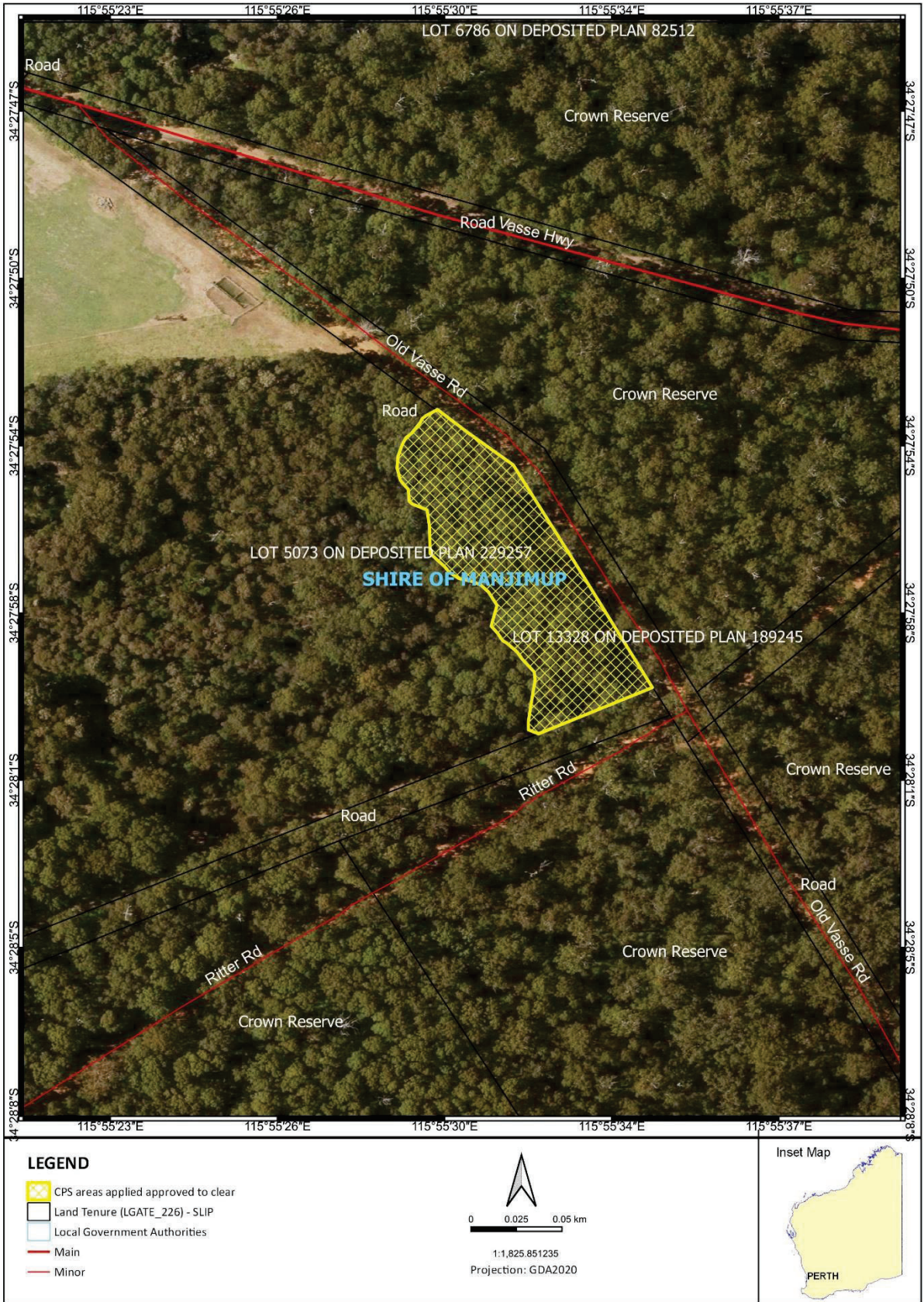


Figure 1: Map of the boundary of the area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10622/1
Permit type:	Area permit
Applicant name:	Tallawanna Pty Ltd
Application received:	17 May 2024
Application area:	1.21 hectares of native vegetation
Purpose of clearing:	Gravel extraction and pasture
Method of clearing:	Mechanical
Property:	Lot 5073 on Deposited Plan 22925
Location (LGA area/s):	Shire of Manjimup
Localities (suburb/s):	Yeagarup

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area which is 1.21 hectares in size (see Figure 1, Section 1.5). The clearing is to facilitate the extraction of gravel, planned to be used to construct a road within the property, after the completion of which the land is proposed to be used as pasture.

1.3. Decision on application

Decision:	Granted
Decision date:	29 November 2024
Decision area:	1.21 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 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 assessment identified that the proposed clearing:

- Will remove secondary foraging habitat for black cockatoo species and potential habitat for quokka, quenda, south-western brush-tailed phascogale and peregrine falcon, however the proposed clearing is considered unlikely to result in significant impacts to these species;
- May result in the spread of weeds and dieback to the adjacent Warren National Park; and
- May result in an increased risk of wind erosion.

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 impacts of the proposed clearing on the above values can be managed through conditions such that the clearing 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,
- Take hygiene steps to minimise the risk of the introduction and spread of weeds, and
- Undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.

1.5. Site map

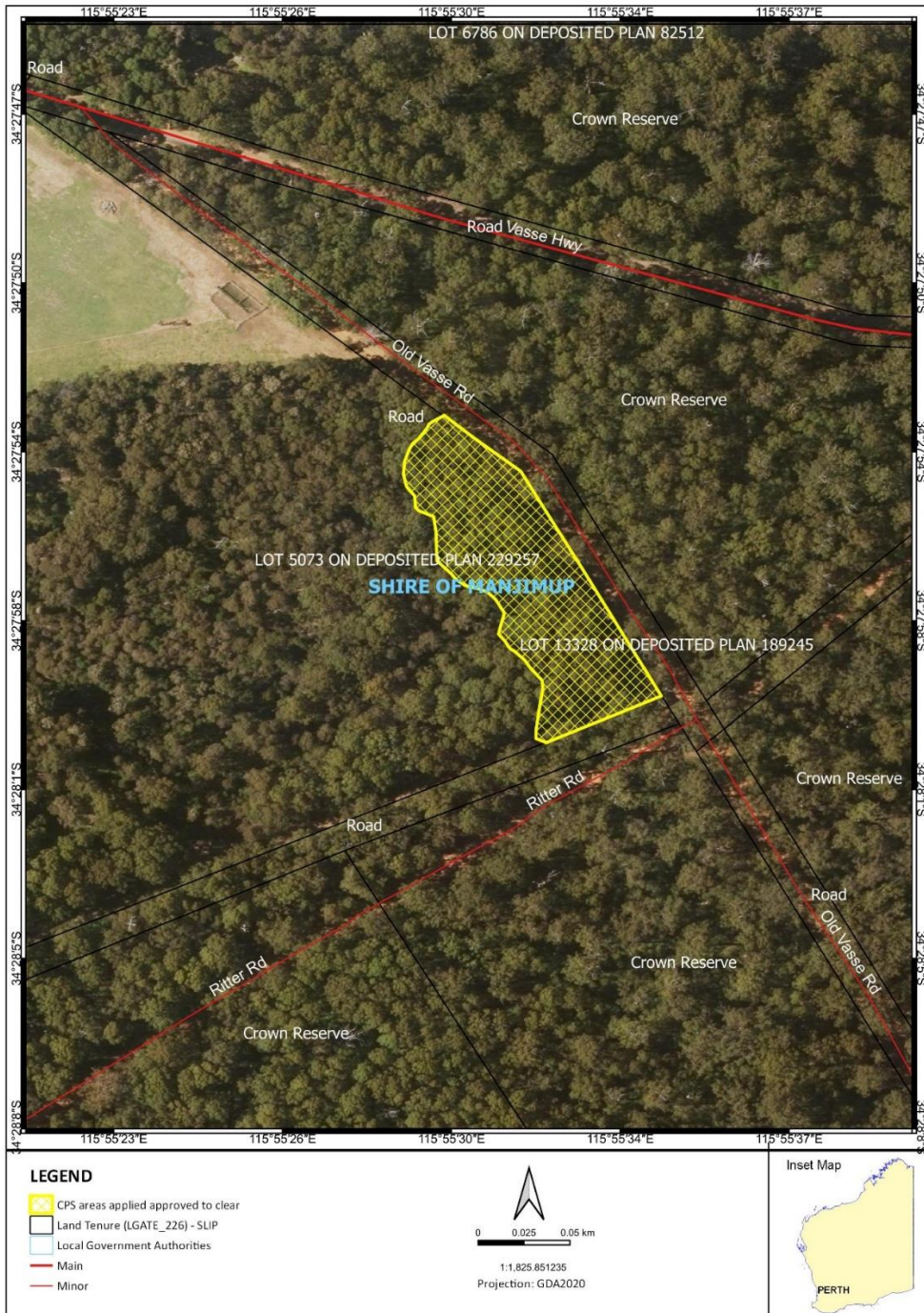


Figure 1. Map of the application area. The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

- the precautionary principle
- the principle of intergenerational equity
- the 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)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant submitted the following to demonstrate consideration of avoidance and mitigation measures:

- The area was approved for clearing under CPS 8090/1 but was not completed before the permit expiry date of 10 February 2021. Clearing cannot be avoided in order to access the gravel deposit (Dunnet, 2024);
- Mr Dunnet wishes to extract gravel from the proposed clearing area for road works on his property. It is also possible, if not likely, that Mr Dunnet will make some gravel available for future Shire of Manjimup road works. There is no other suitable gravel on cleared areas of the property that could be used as an alternative. Purchase of gravel from elsewhere is prohibitively expensive (Clarke, 2024a).

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 (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 the risk of impacts of the proposed clearing to biological values (fauna), conservation areas, and land resources required further consideration. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

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

Assessment

Impacts of the following conservation significant fauna species recorded within the local area required further consideration:

- *Zanda baudinii* (Baudin's cockatoo) (Endangered)
- *Zanda latirostris* (Carnaby's cockatoo) (Endangered)
- *Calyptorhynchus banksia naso* (forest red-tailed black cockatoo) (Vulnerable)
- *Pseudocheirus occidentalis* (western ringtail possum, ngwayir) (Critically Endangered)
- *Setonix brachyurus* (Quokka) (Vulnerable)
- *Isodon fusciventer* (quenda, southwestern brown bandicoot) (Priority 4)
- *Phascogale tapoatafa wambenger* (south-western brush-tailed phascogale, wambenger) (Conservation Dependent)
- *Falco peregrinus* (peregrine falcon) (Other specially protected)

Black cockatoos

While breeding, Baudin's cockatoo, Carnaby's cockatoo and forest red-tailed black cockatoo (hereafter referred to as black cockatoo species) will generally forage within a 6–12 kilometre radius of their nesting site (DAWE, 2022). During the non-breeding period, black cockatoos will mainly forage in areas up to 20 km from known night roosting habitat, though in some cases, foraging distances can be greater (DAWE, 2022). This variable range indicates large areas of foraging habitat are required to support black cockatoo populations. Cumulative impacts of the loss of remnant vegetation restrict the availability of food sources for black cockatoos (DAWE, 2022).

While no known roosting and breeding sites have been recorded within a distance from the application area in which black cockatoos are likely to forage from, there may be black cockatoo breeding and roosting sites locally that have not been documented. The *Eucalyptus diversicolor* (karri) trees found within the application area are unlikely to be a preferred source of foraging habitat for black cockatoo species (DEC, 2008; DAWE, 2022; Groom, 2011, Valentine and Stock, 2008, T. Johnston, personal communication, October 17, 2023) but may be used when other foraging resources are not available (T. Johnston, personal communication, October 17, 2023). Given that 72 per cent of vegetation remains within the local area, a large proportion of which is within land managed by DBCA and is likely to be dominated by karri, it is not considered that the proposed clearing is likely to significantly limit the amount of karri vegetation available for foraging in the context of the local area. As such, it is considered that the proposed clearing is unlikely to significantly impact foraging habitat for black cockatoo species.

The application area is within the breeding range of Baudin's cockatoo and forest-red tailed black cockatoo (DAWE, 2022), and both of these species nest in suitable hollows in live or dead trees with a diameter at breast (DBH) height of greater than 50 cm, including karri trees (DAWE, 2022). The applicant has advised that no trees with a DBH greater than 50 cm are present within the application area (Clarke, 2024c) and as such the proposed clearing will not impact current black cockatoo breeding habitat. While some potential black cockatoo habitat trees (defined by DAWE (2022) as trees of suitable species to develop hollows with a diameter at breast height of 50 centimetres or greater) are likely to be present within the application area, noting that the local area is highly vegetated, a large proportion of which is within land managed by DBCA, it is considered that the proposed clearing would not significantly impact the availability of black cockatoo breeding habitat within the context of the local area.

Although no roosting trees are mapped within the application area by Smithson Environmental, large Eucalyptus (karri) trees within the application area are likely to provide roosting habitat for black cockatoo species (DAWE, 2022). However, noting that the local area is highly vegetated, it is considered that the proposed clearing would not significantly impact the availability of black cockatoo roosting habitat within the context of the local area.

Western ringtail possum

Key management zones have been identified for western ringtail possum (WRP), which are areas that currently support or previously have supported large numbers of WRP, although WRP can still occur outside of these areas (DPAW, 2017). While the application area is outside any of these identified management zones, it is closest to the southern forest management zone, where WRP can inhabit karri forest (DPAW, 2017). Habitat critical to the survival of WRP within this zone comprises forests 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 incidence of fragmentation (DPAW, 2017). The diet of the possums almost exclusively comprises the dominant or co-dominant upper and midstorey myrtaceous plants: peppermint, marri and jarrah (Jones et al. 1994). Noting the lack of preferred WRP foraging species, the lack of trees likely large enough to support hollows and the disturbed nature of the vegetation from previous surrounding clearing, it is considered unlikely that WRP occurs within the application area and that the proposed clearing would result in significant impacts to WRP.

Quokka

Quokka most commonly inhabit jarrah, marri and karri forests or riparian habitats with sedge understorey in the southwest of Western Australia, with a known range that encompassed the application area (DEC, 2013). The quokka has relatively high water requirements, which necessitates close proximity to fresh water throughout the year, hence, the species is often present in riparian and swamp habitat (Hayward et al. 2005), however, the feeding ecology of quokkas frequently results in their use of habitat beyond riparian zones (DBCA, 2023) and as such the presence of quokka within the application area cannot be ruled out. Noting the vegetation within the application is not riparian and the abundance of native vegetation in better condition within the local area, the application area is not considered likely to provide significant habitat for quokka.

Quenda

Quenda inhabit dense scrubby, often swampy, vegetation with dense cover and adjacent forest and woodland (DPAW, 2018). Although the application area contains suitable habitat for quenda, the proposed clearing is not likely

to result in significant impacts to habitat for quenda, noting the extent of the application area relative to the abundance of better quality surrounding native vegetation.

South-western brush-tailed phascogale

Southwestern brush-tailed phascogale inhabit dry sclerophyll forests and open woodlands that contain hollow bearing trees but a sparse groundcover. In the south-west, this species is typically found in jarrah forest (DEC, 2012) although can also be found within karri forest. Although the application area may contain suitable habitat for transient southwestern brush-tailed phascogale, the proposed clearing is not likely to result in significant impacts to habitat for this species, noting the lack of trees likely large enough to support sufficient hollows for this species and the extent of the application area relative to the abundance of surrounding better quality native vegetation.

Peregrine falcon

The Peregrine falcon is found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas (Australian Museum, 2020). Noting this species is widespread and highly mobile, the wide variety of habitats used by this species and the extent of clearing, the proposed clearing is unlikely to significantly impact this species.

Conclusion

Based on the above assessment, the proposed clearing will remove secondary foraging habitat for black cockatoo species and potential habitat for quokka, quenda, south-western brush-tailed phascogale and peregrine falcon, however the proposed clearing is considered unlikely to result in significant impacts to these species. A condition requiring the permit holder to clear in a slow directional manner will reduce impacts to any terrestrial fauna species present.

Conditions

Slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity will minimise impact to fauna individuals that may be present at the time of the clearing.

3.2.2. Conservation areas - Clearing Principle (h)

Assessment

Warren National Park is located approximately 20 m to the northeast and southeast of the application area. The disturbance caused by the proposed clearing may increase the risk of weeds and dieback spreading into the nearby conservation areas associated with the ecological linkage. Weed and dieback management actions will assist in reducing the potential impacts.

Conclusion

Based on the above assessment, the proposed clearing may result in the spread of weeds and dieback to the adjacent Warren National Park. It is considered that these impacts can be managed through weed and dieback management actions.

Conditions

Weed and dieback management conditions.

3.2.3. Land resources - Clearing Principle (g)

Assessment

The mapped soils are highly susceptible to wind erosion. Taking into consideration that the cleared areas will be replaced with pasture, the risk of wind erosion is considered to be limited to occurring within the extractive activities. However, noting the application area is surrounded by vegetated areas, impacts of wind erosion are not considered significant.

Conclusion

Based on the above assessment, the risk of wind erosion is considered to be minimal.

Conditions

NIL conditions required.

3.3. Relevant planning instruments and other matters

The Shire of Manjimup advised DWER that local government approvals for the clearing and gravel extraction are not required, as the gravel extraction comes under public works (Shire of Manjimup, 2024). The Shire did not have any objections to the proposed clearing (Shire of Manjimup, 2024).

Clearing within the application area was previously authorised under CPS 8090/1, which expired in February 2021.

End

Appendix A. Additional information provided by applicant

The applicant provided the following information following the submission of their application documents that was considered during the assessment.

Summary of comments	Consideration of comment
Further evidence of consideration of avoidance and mitigation measures (Clarke, 2024a)	Considered in Section 3.1
Photographs of the vegetation (Clarke, 2024b)	Provided in Appendix E and used to inform vegetation descriptions in Appendix B
No trees with a diameter over 500 mm at breast height are present within the application area (Clarke, 2024c)	Considered in Section 3.2.1

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. It is surrounded by to native vegetation.</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 72 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The closest formally mapped ecological linkage to the application area is an axis line associated with the south west regional ecological linkages (Molloy et. al. 2010), however vegetation within the application area does not form an integral part of this linkage. The application area is part of a local ecological linkage between vegetation to the south and vegetation to the northeast, however it is not an integral part of this linkage.</p>
Conservation areas	<p>Warren National Park is located approximately 20 m to the northeast and southeast of the application area.</p>
Vegetation description	<p>Photographs supplied by the applicant and findings of a DWER site inspection conducted in 2018 (DWER, 2018) indicate the vegetation within the proposed clearing area consists of karri forest with some understorey shrubs. Representative photos are available in Appendix E.</p> <p>This is consistent with the vegetation type mapped in the southern portion of the application area:</p> <ul style="list-style-type: none"> Yanmah, YN1(321), described as Mixture of tall open forest of <i>Eucalyptus diversicolor</i> and tall open forest of <i>Corymbia calophylla</i>-<i>Eucalyptus patens</i>-<i>Eucalyptus marginata</i> subsp. <i>marginata</i> over <i>Agonis flexuosa</i> and <i>Agonis juniperina</i> on valleys in perhumid and humid zones (Mattiske and Havel, 1998) <p>But not the northern portion:</p> <ul style="list-style-type: none"> Corbalup, CL1 (52), described as Mosaic of open forest of <i>Eucalyptus marginata</i> subsp. <i>marginata</i>-<i>Banksia</i> spp. on well drained sites, with some <i>Eucalyptus decipiens</i> on lower slopes in southern areas, woodland of <i>Eucalyptus rudis</i>-<i>Melaleuca preissiana</i>-<i>Banksia littoralis</i> on depressions in perhumid and humid zones.

Characteristic	Details
	The mapped vegetation types retain approximately 82 and 70 per cent respectively of their original extents (Government of Western Australia, 2019b).
Vegetation condition	<p>Photographs supplied by the applicant and findings of a DWER site inspection conducted in 2018 (DWER, 2018) indicate the vegetation within the proposed clearing area is in Good (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> 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. <p>Clearing has occurred on the western side of the application area and within the application area (under previous clearing permit CPS 8090/1) in recent years, which appears to have resulted in some disturbance of the understorey and midstorey.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix D. Representative photos are available in Appendix E.</p>
Climate	Mean Annual Rainfall: 1200 mm
Topography	Elevation within the application area is approximately 155 m AHD
Soil description	<p>Soil within the application area is mapped as :</p> <ul style="list-style-type: none"> Northern portion - Corbalup Subsystem (Dwalganup), described as Gently undulating rises over sedimentary deposits, relief 5-15 m, slopes 1-5%. Soils are loamy gravels and sandy gravels Southern portion - Yanmah Subsystem (Pimelia), described as Shallow (5-20 m) minor valleys, usually U-shaped with gentle sideslopes (3-10%) and broad swampy floors. Soils are loamy gravels, sandy gravels and deep sands with non-saline wet soils on the valley floors (DPIRD, 2024).
Land degradation risk	Soil types within the application area have a high risk of subsurface acidification and wind erosion, and moderate risks of water erosion and phosphorus export. Risks of other land degradation issues are low.
Waterbodies	Two non-perennial watercourses and associated palusplain wetlands are located approximately 260 m and 380 m west and northwest of the application area respectively. These watercourses are tributaries of Fly Brook, which is part of the Donnelly River catchment.
Hydrogeography	<p>The application area straddles the Donnelly River System and Warren River and Tributaries Surface Water Areas proclaimed under the RIWI Act.</p> <p>Hydrogeology: Rocks of Low Permeability, Fractured and Weathered Rocks - Local Aquifers (Granitoid lithology)</p> <p>Groundwater salinity: 500-1000 mg/L TDS</p>
Flora	There are records of 3 Threatened and 4 Priority flora species within the local area, the closest of which to the application area is Priority 1 species <i>Microtis quadrata</i> , was recorded approximately 1 km to the northwest. None of these species are recorded within the same soil subsystem or vegetation type as those present within the application area and are thus considered unlikely to occur within the application area.
Ecological communities	There are no records of conservation significant ecological communities within the local area.

Characteristic	Details
Fauna	<p>There are records of 7 Threatened, 6 Priority, 2 Conservation Dependent, 1 Migratory and 1 Other Specially Protected fauna species within the local area, the closest record of which to the application area was for <i>Zanda latirostris</i> (Carnaby's cockatoo), recorded 0.4 km to the southeast.</p> <p>The application area is within the known distribution of the forest red-tailed black cockatoo (core distribution), Carnaby's black cockatoo (non-breeding area), and Baudins black cockatoo.</p> <p>There is one recorded white tailed black cockatoo breeding site within a 20 km radius of the application area, located approximately 17 km to the northwest. This breeding site was confirmed to have white tailed black cockatoo nesting activity. There are no recorded red-tailed black cockatoo breeding sites within a 20km radius of the application area.</p> <p>There are no recorded black cockatoo roost sites within a 20km radius 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*					
Jarrah Forest	4,506,660.25	2,399,838.15	53.25	69.74	37.14
Vegetation complex					
Mattiske vegetation complex CL1**	15,179.09	10,613.98	69.93	10,005.82	65.92
Mattiske vegetation complex YN1**	23,494.22	19,229.71	81.85	18,180.49	77.38
Local area					
10km radius	31,946.29	22,775.44	72.31	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

B.3. Fauna analysis table

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

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of records in local area	Are surveys adequate to identify? [Y, N, N/A]
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo)	VU	Y	Y	3.2	6	N/A
<i>Falco peregrinus</i> (peregrine falcon)	OS	Y	Y	9.1	1	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 records in local area	Are surveys adequate to identify? [Y, N, N/A]
<i>Isoodon fusciventer</i> (quenda, southwestern brown bandicoot)	P4	Unlikely	Y	6.1	6	N/A
<i>Phascogale tapoatafa wambenger</i> (south-western brush-tailed phascogale, wambenger)	CD	N	Y	7.7	2	N/A
<i>Pseudocheirus occidentalis</i> (western ringtail possum, ngwayir)	CR	N	Y	2.3	6	N/A
<i>Setonix brachyurus</i> (quokka)	VU	Unlikely	Y	4.2	19	N/A
<i>Zanda baudinii</i> (Baudin's cockatoo)	EN	Y	Y	3.3	36	N/A
<i>Zanda latirostris</i> (Carnaby's cockatoo)	EN	Y	Y	0.4	3	N/A

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

B.4. Land degradation risk table

Risk categories	<i>Corbalup Subsystem (Dwalganup)</i>
Wind erosion	H2: >70% of the map unit has a high to extreme wind erosion risk
Water erosion	L2: 3-10% of the map unit has a very high to extreme water erosion risk
Salinity	L1: <3% of the map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	H2: >70% of the map unit has a high subsurface acidification risk or is presently acid
Flood risk	L1: <3% of the map unit has a moderate to high flood risk
Water logging	L1: <3% of the map unit has a moderate to very high waterlogging risk
Phosphorus export risk	M1: 10-30% of map unit has a high to extreme phosphorus export risk

Risk categories	<i>Yanmah Subsystem (Pimelia)</i>
Wind erosion	H2: >70% of the map unit has a high to extreme wind erosion risk
Water erosion	M1: 10-30% of the map unit has a very high to extreme water erosion risk
Salinity	L1: <3% of the map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	H2: >70% of the map unit has a high subsurface acidification risk or is presently acid
Flood risk	L2: 3-10% of the map unit has a moderate to high flood risk
Water logging	L2: 3-10% of the map unit has a moderate to very high waterlogging risk
Phosphorus export risk	M2: 30-50% of map unit has a high to extreme phosphorus export risk

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p>Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u> The area proposed to be cleared contains habitat for conservation significant fauna.</p>	May be at variance	Yes <i>Refer to Section 3.2.1 above</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (b):</u> “Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</p> <p><u>Assessment:</u> The area proposed to be cleared contains potential foraging and roosting habitat for black cockatoo species and potential habitat for other conservation significant fauna, however impacts are not considered to be significant.</p>	At variance	Yes Refer to Section 3.2.1 above
<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> The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act.</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> The area proposed to be cleared does not contain species indicative of a threatened ecological community as</p> <p>a) defined in the <i>Biodiversity Conservation Act 2016</i> section 5(1); or</p> <p>(b) any other ecological community listed, designated or declared as threatened, endangered or vulnerable under or for the purposes of a written law; or</p> <p>(c) a listed threatened ecological community as defined in the Commonwealth EPBC Act section 528.</p>	Not likely to be at variance	No
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 the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia (to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001)).</p> <p>The vegetation proposed to be cleared is not considered to be an integral part of a significant ecological linkage in the local area.</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> Given the distance to the Warren National Park, the proposed clearing may have an impact on the environmental values of this conservation area. Weed and dieback management conditions imposed on the permit are likely to mitigate these impacts.</p>	May be at variance	Yes Refer to Section 3.2.2 above
Environmental value: land and water resources		
<p><u>Principle (f):</u> “Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</p> <p><u>Assessment:</u> No watercourses or wetlands are mapped within the application area and the vegetation under application is not growing in, or in association with, an environment associated with a watercourse or wetland.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (g):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</p> <p><u>Assessment:</u> The mapped soils are susceptible to wind erosion and subsurface acidification and moderately susceptible to water erosion and phosphorus export. Noting the extent of the application area the proposed clearing is not likely to have an appreciable impact on other land degradation in respect to other risks.</p>	May be at variance	Yes <i>Refer to Section 3.2.3 above</i>
<p><u>Principle (i):</u> “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.”</p> <p><u>Assessment:</u> Given the distance to the nearest watercourses and wetlands, the degraded nature of these waterbodies and the extent of the clearing, 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> “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> Noting the mapped soil types and topographic contours in the surrounding area, the proposed clearing is unlikely to contribute to increased incidence or intensity of waterlogging or 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 Keighery (1994) scale below was used to measure the condition of the vegetation proposed to be cleared.

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 E-1. Photograph of vegetation in application area - understorey and karri trees in background (Dunnet, 2024)



Figure E-2. Photograph of vegetation in application area - disturbed understorey and karri trees in background (Clarke, 2024b)



Figure E-3. Photograph of vegetation in application area - karri trees and understorey shrubs (Clarke, 2024b)



Figure E-4– Photograph of vegetation in application area - karri trees karri trees (Clarke, 2024b)



Figure E-5 – Photograph of vegetation in application area - understory shrubs and karri trees (Clarke, 2024b)



Figure E-6 – Photograph of vegetation in application area – crowns of karri trees (Clarke, 2024b)



Figure E-7 – Photograph of vegetation in application area – gravelly soil and karri trees (Clarke, 2024b)



Figure E-8 – Photograph of vegetation in application area – understorey and karri trees (Clarke, 2024b)

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)
- 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)

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