



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9419/1
File Number: DWERVT8582
Duration of Permit: From 31 December 2021 to 31 December 2023

PERMIT HOLDER

Robin Milivoj Kuzich
Dianne Kay Kuzich

LAND ON WHICH CLEARING IS TO BE DONE

Lot 9523 on Deposited Plan 229088, Ringbark

AUTHORISED ACTIVITY

The permit holder must not clear more than 1.82 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 in one direction 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 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; (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 3; and (g) actions taken to undertake directional clearing in accordance with condition 4.

5. Reporting

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

DEFINITIONS

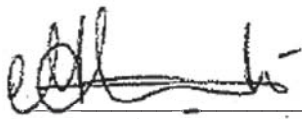
In this permit, the terms in have the meanings defined.

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.
black cockatoo species	means one or more of the following species: (a) <i>Calyptorhynchus lateriosus</i> (Carnaby's cockatoo); (b) <i>Calyptorhynchus baudinii</i> (Baudin's cockatoo); and/or (c) <i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo).
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.

Term	Definition
weeds	means any plant – <ul style="list-style-type: none"><li data-bbox="592 327 1305 394">(a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; or<li data-bbox="592 398 1347 506">(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or<li data-bbox="592 510 1082 539">(c) not indigenous to the area concerned.

END OF CONDITIONS



Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

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

9 December 2021

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 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 9419/1
Permit type:	Area permit
Applicant name:	Robin Milivoj Kuzich Dianne Kay Kuzich
Application received:	2 September 2021
Application area:	1.82 hectares of native vegetation
Purpose of clearing:	Dam construction
Method of clearing:	Mechanical
Property:	Lot 9523 on Deposited Plan 229088
Location (LGA area/s):	Shire of Manjimup
Localities (suburb/s):	Ringbark

1.2. Description of clearing activities

The vegetation proposed to be cleared comprises several fragments of native vegetation within a historically cleared paddock (see Figure 1, Section 1.5). The application proposes to clear native vegetation to facilitate the construction of a dam and associated spillway, bypass sump and water footprint.

1.3. Decision on application

Decision:	Granted
Decision date:	9 December 2021
Decision area:	1.82 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 one submission was received. Consideration of matters raised in the public submission is summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix G.1), representative photographs of the vegetation communities and detailed photographs of all habitat trees within the application area provided by the applicant (available at DWER's [FTP website](#)), 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 assessment identified that the proposed clearing will result in:

- the loss of suitable foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*) and Baudin's cockatoo (*Calyptorhynchus baudinii*), and the forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*),
- the loss of suitable habitat for conservation significant fauna including the western ringtail possum (*Pseudocheirus occidentalis*), south-western brush-tailed phascogale (*Phascogale tapoatafa wambenger*) and quenda (*Isoodon fusciventer*),
- the loss of vegetation growing in, or in association with, an environment associated with a watercourse,
- minor, localised and short-term impacts to surface water quality through sedimentation and turbidity, 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.

Given the extent of foraging habitat within the application area, the sparse distribution of primary foraging species, and the existence of larger remnants of quality foraging habitat in the vicinity and in close proximity to significant habitat resources, the Delegated Officer determined that the proposed clearing was unlikely to result in significant impacts to foraging habitat for black cockatoo species in the context of the local area. Based on the extent and condition of vegetation within the application area, its isolation from other areas of suitable habitat and the presence of larger, better-quality remnants of vegetation within secure conservation estate in the local area, the Delegated Officer also determined that the proposed clearing was unlikely to impact significant habitat for any other conservation significant fauna species or to result in long-term impacts to riparian vegetation or water quality. After consideration of the available information and noting the condition and extent of vegetation within the application area, 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 biological, conservation, or land and water resource values and can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

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

- avoid, minimise, and reduce the impacts and extent of clearing,
- take hygiene steps to minimise the risk of the introduction and spread of weeds, 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. The areas crosshatched 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)
- *Biosecurity and Agriculture Management Act 2007* (WA) (BAM Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Rights in Water and Irrigation Act 1914* (WA) (RIWI Act)

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant advised that the proposed clearing is only to the extent necessary to allow for the construction of a dam and associated spillway, bypass-sump and water footprint, including allowances for machinery works, ongoing maintenance and vehicle turnaround (Figure 2; Kuzich, 2021b). The applicant also advised that manual, mechanical clearing will only be undertaken to facilitate construction of the dam wall, spillway, and bypass-sump and that the additional clearing under the application is to allow for the possible death of vegetation that will be flooded by the water footprint of the dam (Kuzich, 2021a).

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.

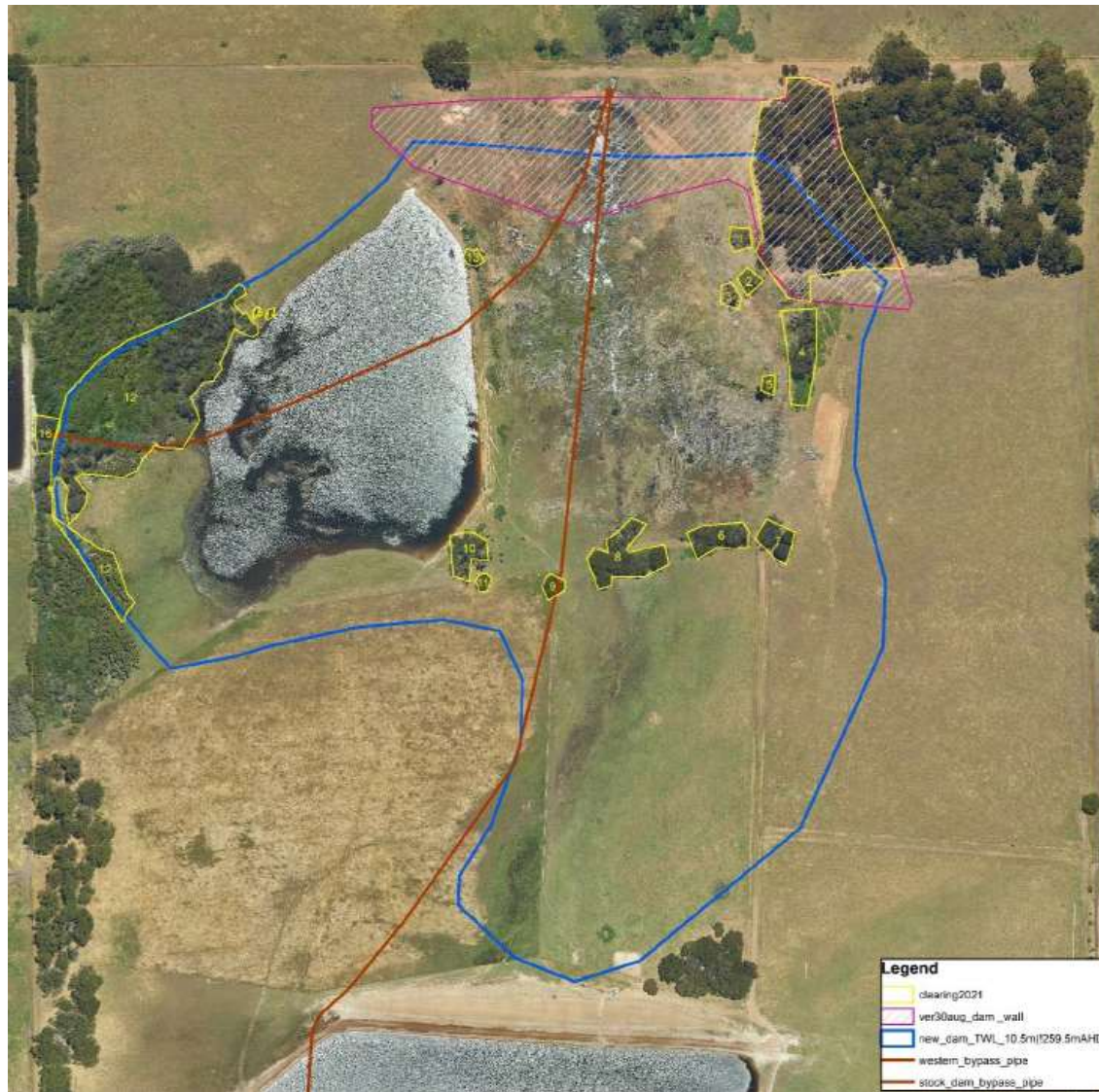


Figure 2. Proposed dam footprint and associated clearing under CPS 9419/1 (Kuzich, 2021b).

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix D) identified that the impacts of the proposed clearing present a risk to biological values (fauna and flora habitat) and water resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

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

Assessment

Noting the site characteristics and habitat preferences of the conservation significant fauna species recorded in the local area (see Appendix C), the application area was considered to contain suitable habitat for the following species:

- Muir's corella (*Cacatua pastinator pastinator*) (listed as a species of special conservation interest (conservation dependent fauna) by DBCA),
- Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) (listed as Vulnerable under the BC Act and EPBC Act),
- Baudin's cockatoo (*Calyptorhynchus baudinii*) (listed as Endangered under both the BC Act and EPBC Act),

- Carnaby's cockatoo (*Calyptorhynchus latirostris*) (listed as Endangered under both the BC Act and EPBC Act),
- Peregrine falcon (*Falco peregrinus*) (listed as other specially protected fauna by DBCA),
- Quenda (*Isodon fusciventer*) (listed as Priority 4 by DBCA),
- South-western brush-tailed phascogale (*Phascogale tapoatafa wambenger*) (listed as a species of special conservation interest (conservation dependent fauna) by DBCA),
- Western ringtail possum (*Pseudocheirus occidentalis*) (listed as Critically Endangered under both the BC Act and EPBC Act), and
- Masked owl (*Tyto novaehollandiae novaehollandiae*) (listed as Priority 3 by DBCA).

Black cockatoo species

Breeding habitat

Baudin's cockatoo, Carnaby's cockatoo and the forest red-tailed black cockatoo, collectively known as black cockatoo species, are known to nest in hollows of live and dead trees, including marri, jarrah (*Eucalyptus marginata*), karri (*Eucalyptus diversicolor*), wandoo (*Eucalyptus wandoo*), tuart (*Eucalyptus gomocephala*), flooded gum (*Eucalyptus rudis*), and other *Eucalyptus* spp. (Commonwealth of Australia, 2012). 'Breeding habitat' for black cockatoos includes trees of these species that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow, where suitable DBH for nest hollows is 500 millimetres for most tree species (Commonwealth of Australia, 2012). While breeding, black cockatoos also generally forage within a 6-to-12-kilometre radius of their nesting site (Commonwealth of Australia, 2012). According to available datasets, mapped potential black cockatoo feeding habitat is recorded within a 12-kilometre radius of the application area, making it a suitable location for breeding if appropriate hollows are present. The application area is also located within the modelled breeding range for all three black cockatoo species (Commonwealth of Australia, 2012). However, according to available databases, the closest confirmed breeding site is approximately 34 kilometres south-east of the application area for Carnaby's cockatoo and Baudin's cockatoo and is approximately 90 kilometres south-east of the application area for the forest red-tailed black cockatoo (DBCA, 2007-).

Photographs provided by the applicant indicate that 61 trees within the application area are of suitable DBH to provide potential breeding habitat for black cockatoo species, comprising 43 immature karri and 18 mature marri or jarrah paddock trees (Kuzich, 2021b). However, no hollows were evident in any of the habitat trees from the photographs provided (Kuzich, 2021b). Given the dimensions of the trees and quality of the photographs provided, it is considered that hollows would have been observable from the ground and evident in the photographs for the paddock trees, if present. It is acknowledged that hollows may not have been observable from the ground for the karri trees, given their height. However, the photographs indicate that the karri trees within the application area are predominantly immature and single-stemmed and are unlikely to be of sufficient age or diameter to provide hollows of suitable size for use by black cockatoo species at such heights. While it is acknowledged that the application area may provide breeding habitat in future, it is not considered to represent critical breeding habitat at present. It is acknowledged that a stand of karri woodland of approximately 1.8 hectares in size adjacent to the application area will be retained, which may contribute to future breeding habitat in the local area. It is also noted that there is approximately 14,739 hectares of remnant vegetation in the local area, of which approximately 10,900 hectares occurs within secure conservation estate, which is likely to provide current and future breeding habitat for black cockatoo species. Given the above, the proposed clearing is not considered likely to comprise significant breeding habitat for black cockatoo species and is not considered likely to significantly impact breeding by black cockatoo species in the local area.

Roosting habitat

It is recognised that the habitat trees within the application area may also represent suitable roosting habitat for black cockatoo species. According to available databases, the closest confirmed roost site for black cockatoos occurs approximately 5.8 kilometres from the application area (DBCA, 2007-). Further, roosting is typically noted to occur within suitable trees close to an important water source and within an area of quality foraging habitat (Commonwealth of Australia, 2012). As the application area does not transect any permanent watercourses and contains sparsely distributed primary foraging habitat (as discussed below), the proposed clearing is not likely to result in the loss of significant roosting habitat for any black cockatoo species.

Foraging habitat

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

Photographs provided by the applicant indicate that the application area consists primarily of karri woodland with limited native mid- or understorey species and riparian woodland dominated by *Melaleuca* spp., with sparse stands of marri and jarrah paddock trees. Therefore, suitable foraging habitat for black cockatoo species within the application area is likely to be limited to approximately 1.01 hectares of karri woodland and isolated paddock trees. According to the referral guidelines for black cockatoo species, while karri may be a suitable foraging species, it is not a preferred foraging plant for any species of black cockatoo (Commonwealth of Australia, 2012). Primary foraging habitat within the application area is therefore likely to be limited to isolated stands of marri and jarrah paddock trees.

According to available databases, approximately 14,739 hectares of remnant native vegetation exists within the local area, much of which is expected to provide suitable foraging habitat for black cockatoo species. The application area as a whole represents approximately 0.012 per cent of all mapped remnant native vegetation in the local area and is not considered likely to be significantly contributing to the availability of foraging resources. It is also acknowledged that a stand of karri woodland of approximately 1.8 hectares in size and containing similar quality foraging habitat adjacent to the application area will be retained. Further, approximately 74 per cent of mapped remnant vegetation in the local area is located within secure conservation estate and is likely to provide larger areas of higher quality foraging habitat than that present within the application area. The referral guidelines for black cockatoo species also acknowledges that foraging habitat within 12 kilometres of a breeding site and within 6 kilometres of a night roost are of particular importance for black cockatoo species (Commonwealth of Australia, 2012). As discussed above, the application area does not occur within 12 kilometres of any confirmed breeding site. The closest confirmed roosting site for black cockatoo species is located approximately 5.8 kilometres from the application and is within range for roosting birds to be utilising the application area for foraging. However, the application area represents less than 0.05 per cent of mapped vegetation within 6 kilometres and approximately 0.008 per cent within 12 kilometres of the nearest confirmed roosting sites. Therefore, the application area is also not considered likely to be significant in supporting foraging by roosting or breeding populations in the local area.

Given the extent of primary foraging habitat within the application and the existence of larger remnants of quality foraging habitat in vicinity, the application area is not considered likely to comprise significant foraging habitat for black cockatoo species or to be critical in supporting foraging by black cockatoo species in the local area. As discussed above, the proposed clearing is not considered likely to represent a significant loss of foraging resources for black cockatoo species in the context of the broader landscape.

Ecological linkage

Given the application area comprises stands of native vegetation within a historically cleared paddock, it is acknowledged that the application area may act as a 'stepping stone', providing ecological linkage for black cockatoo species as they move through the landscape. However, as discussed above, the application area represents approximately 0.012 per cent of all mapped remnant vegetation in the local area and approximately 10,900 hectares of remnant vegetation in the local area occurs within secure conservation estate. It is also acknowledged that a stand of karri woodland of approximately 1.8 hectares in size adjacent to the application area will be retained and will continue to provide linkage values in the vicinity of the application area. Given the above, it is not considered likely that the proposed clearing will significantly reduce ecological linkages in the local area or result in significant impacts to the movement of black cockatoo species through the landscape.

Other avian fauna

The peregrine falcon typically nests on rocky ledges in tall, vertical cliff faces and gorges, or in tall trees associated with drainage lines, and can hunt in a range of habitat types including timbered watercourses, riverine environments, wetlands, plains, open woodlands, and pylons and spires of buildings (Australian Museum, 2021). Given its woodland structure and proximity to existing records, the application area may provide suitable foraging habitat for the peregrine falcon. However, noting that the peregrine falcon is a highly mobile species with a large home range that does not rely on specialist niche habitats, the peregrine falcon is likely to be transient in the application area and it is unlikely that the application area represents significant habitat for the species. Further, noting that the application area is a disturbed remnant in historically cleared paddock and that extensive tracts of native vegetation within secure conservation estate exist within the vicinity of the application area, it is unlikely that the peregrine falcon would be reliant on the application area for foraging in the local area.

Muir's corella is associated with woodlands, particularly those consisting of large live or dead marri, jarrah, flooded gum, Yate (*Eucalyptus cornuta*) and *Melaleuca preissiana*, including suitable nesting hollows and corms, tubers and seeds for foraging (DEC, 2008b). The masked owl (southern race) occurs across southern Australia from New South Wales to Western Australia and inhabits a wide variety of lowland forests and woodlands that provide mature trees with hollows suitable for nesting and roosting, and nearby open areas for foraging (DSE, 2003). The karri

woodland within the application area may provide suitable habitat for both Muir's corella and the masked owl. However, given the application area does not include hollow-bearing trees and that larger remnants of higher quality habitat persist in conservation estate in the local area, it is not considered likely that Muir's corella and the masked owl are reliant on the application area for foraging or roosting in the local area or that the application area comprises significant habitat for these species.

Ground-dwelling and arboreal fauna

The western ringtail possum is an arboreal folivore, associated with mature marri and jarrah forests within the Southern Forest management zone surrounding Manjimup, characterised by high canopy cover and connectivity (DPAW, 2017). Within the Southern Forest management zone, suitable habitat also includes riparian vegetation with a canopy of flooded gum, wandoo forests, and karri forests with appropriate canopy, that provide suitable foraging habitat and tree hollows for breeding and diurnal refuge (DPAW, 2017). The south-western brush-tailed phascogale is an arboreal dasyurid, associated with dry sclerophyll forests and open woodlands that contain hollow-bearing trees, characterised by high canopy cover and connectivity (DEC, 2012b). Given the above, the karri woodland within the application area may provide suitable habitat for the western ringtail possum and south-western brush-tailed phascogale. However, photographs provided by the applicant indicate that canopy cover across the karri woodland is patchy due to its degraded condition, with small areas of full canopy connectivity and other areas comprising a sparse and disconnected canopy. Further, the application area is part of a small, isolated remnant that has limited to no connectivity to larger areas of suitable habitat in the local area, making it unlikely to support a significant population or comprise significant habitat for either species. As outlined above, approximately 14,739 hectares of remnant native vegetation remain within the local area, of which 74 per cent persists within secure conservation estate, which is likely to provide larger remnants of higher quality habitat for these species. Given the location and extent of the proposed clearing, the canopy structure of the application area, and the extent of suitable habitat available in the local area, the application area is not considered likely to comprise significant habitat for the western ringtail possum or south-western brush-tailed phascogale and the proposed clearing is unlikely to significantly impact habitat for either species in the local area. It is acknowledged that a stand of karri woodland of approximately 1.8 hectares in size adjacent to the application area will be retained, and any individuals present at the time of clearing will be able to disperse into this habitat, given the application of slow, progressive directional clearing.

Quenda are ground-dwelling marsupials, typically associated with forest or woodlands near watercourses, where understorey consists of dense scrub and leaf litter is abundant (DEC, 2012a). Given the wetland characteristics and dense weed understorey within the *Melaleuca* sp. woodland, this area of the application is likely to provide suitable habitat for quenda. However, as discussed above, the local area contains extensive remnants of vegetation within secure conservation estate and the application area is part of a small, isolated remnant that has limited connectivity to these larger areas of suitable habitat in the local area. The application area is also adjacent to approximately 0.8 hectares of *Melaleuca* sp. woodland to the north and it is expected that individuals will be able to disperse into this vegetation if present at the time of clearing. Given the location and extent of the proposed clearing, the condition of the vegetation, and the extent of suitable habitat available in the local area, the application area is not considered likely to comprise significant habitat for quenda.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 1.01 hectares of suitable foraging habitat for all three black cockatoo species. For the reasons set out above, it is considered that the impacts of the proposed clearing on black cockatoo foraging habitat are unlikely to be significant in the context of the broader landscape and that the proposed clearing does not constitute a significant residual impact. It is considered that potential direct impacts to ground-dwelling or arboreal fauna that may be present at the time of the clearing can be managed through the application of a directional clearing condition.

The applicant may have notification responsibilities under the EPBC Act for impacts to Baudin's black cockatoo, Carnaby's cockatoo, and forest red-tailed black cockatoo and their habitats, as set out in the EPBC Act referral guidelines for these species. The applicant has been advised to contact the federal Department of Water, Agriculture and the Environment (DAWE) to discuss EPBC Act referral requirements.

Conditions

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

- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.

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

Assessment

A total of 10 conservation significant flora species have been recorded within the local area. A review of the site characteristics and habitat preferences of these species (see Appendix C) identified that the application area may provide suitable and potentially significant habitat for the following species:

- *Caladenia christineae* (Christine's spider orchid) (listed as Endangered under the BC Act and Vulnerable under the EPBC Act), and
- *Caladenia harringtoniae* (Harrington's spider orchid) (listed as Vulnerable under both the BC Act and EPBC Act).

Christine's spider orchid is a white spider orchid with small odourless flowers occurring between September and October and grows in brown to grey sandy loam soils on winter-wet flats in heath and tall scrub communities, within jarrah-marri forest and sometimes under *Melaleuca* sp. (paperbarks) (DEWHA, 2008a). Harrington's spider orchid is a pink spider orchid with sweetly scented flowers occurring between October and November and is typically associated with peat or sandy clay soils in paperbark and flooded gum swamps and flats, which are inundated for several months of the year, but may also be found along creek lines in jarrah and karri forest (DEWHA, 2008b). The *Melaleuca* sp. woodland in the west of the application area may provide suitable habitat for both species. The isolated paddock trees and karri woodland within the application area are not considered likely to comprise suitable habitat for either species of spider orchid, given the Degraded to Completely Degraded (Keighery, 1994) condition of the understorey and the lack of seasonally wet or creek line vegetation in these areas.

Given Christine's spider orchid and Harrington's spider orchid are both listed as threatened species under state and federal legislation, the occurrence of either species within the application area may be significant. However, Christine's spider orchid is known from approximately 28 populations from Yornup to Mount Barker (DEWHA, 2008a) and can be locally abundant in areas where it occurs, with known populations containing anywhere between two and 120 mature plants according to Western Australian Herbarium records (Western Australian Herbarium, 1998-). Harrington's spider orchid is known from approximately 37 populations between Nannup and Albany (DEWHA, 2008b), with populations of between two and over 100 mature plants (Western Australian Herbarium, 1998-). Both species are also well-represented in the conservation estate, with at least half of all known records being located in State Forest or National Park, according to Western Australian Herbarium records (Western Australian Herbarium, 1998-).

Further, the *Melaleuca* sp. woodland within the application area has been subject to significant weed invasion and understorey is almost entirely dominated by blackberry (*Rubus* sp.) and weed grasses (see Appendix F; Kuzich, 2021b). It is noted that blackberry is a highly invasive weed that has been declared as a Declared Pest under section 22 of the *Biosecurity and Agriculture Management Act 2007* and is subject to Category 3 management under this legislation, aimed to reduce its harmful impacts, distribution or abundance, or to prevent or contain its spread. Christine's spider orchid and Harrington's spider orchid are not noted to occur in degraded vegetation and are considered to be susceptible to disturbances such as inappropriate fire regimes, invasive weeds, and grazing (DEWHA, 2008a; DEWHA, 2008b). Noting the distribution and extent of existing records of Christine's spider orchid and Harrington's spider orchid, the degree of weed invasion within the application area, and the extent and condition of the vegetation proposed to be cleared, the application area is considered unlikely to be suitable to support significant populations or to comprise significant habitat for the ongoing maintenance of either species of spider orchid.

Conclusion

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

Conditions

No flora management conditions required.

3.2.3. Water resources - Clearing Principles (f) and (i)

Assessment

As the application area intersects a mapped non-perennial tributary of the Donnelly River and includes characteristic riparian vegetation (*Melaleuca* sp.), the vegetation within the application area is considered to be growing in, or in association with, an environment associated with a watercourse. However, it is acknowledged that only a portion of the application area intersects the non-perennial tributary and that the total area of riparian vegetation proposed to be cleared comprises approximately one hectare of disturbed and fragmented vegetation

within a historically cleared paddock. It is also acknowledged that the vegetation along the non-perennial tributary has been highly modified through historical clearing for agriculture and grazing, as well as through weed invasion, and it is unlikely that the vegetation within the application area is contributing significantly to the function of riparian communities associated with the Donnelly River system or within in the local area. Given the extent and location of the proposed clearing, the condition of the vegetation, and adjacent land uses, the proposed clearing is not considered likely to result in any significant or long-term impacts to the ecological values of the mapped non-perennial tributary within the application area.

Given the presence of a non-perennial watercourse within the application area, the proposed clearing also has the potential to result in impacts to surface water quality through turbidity and sedimentation, if the vegetation within the application area is inundated or water is present in the tributary at the time of the clearing. However, given the extent of the proposed clearing, the condition of the vegetation and the final land use as a dam, it is likely that impacts to surface water resulting directly from the proposed clearing will be minor, localised, and short-term. Noting the extent and condition of the vegetation, the non-perennial nature of the watercourse, and that the application area is separated from the nearest major, perennial watercourse by 3.6 hectares of historically cleared land and fragmented vegetation, the proposed clearing is not considered likely to significantly impact surface water quality. Accordingly, it is noted that the application area does not occur within a proclaimed groundwater area and the proposed clearing is not considered likely to result in significant impacts to groundwater quality, given its nature and extent.

However, given the application area is weed-infested and includes Declared plants under the *Biosecurity and Agriculture Management Act 2007*, it is acknowledged that the proposed clearing may cause degradation of adjacent and nearby riparian vegetation by facilitating the spread of weeds and dieback. A weed and dieback management condition is considered to minimise this risk, and it is not considered likely that the proposed clearing will have a significant impact on nearby riparian vegetation.

Conclusion

Based on the above assessment, the proposed clearing may result in the loss of vegetation growing in, or in association with, an environment associated with a watercourse and may cause minor short-term impacts to surface water quality. The proposed clearing also has the potential to facilitate the spread of weeds and dieback into adjacent and nearby riparian vegetation.

For the reasons set out above, the proposed clearing is unlikely to result in any significant or long-term impacts to surface or groundwater quality or to the ecological values of the riparian communities associated with the mapped watercourse. It is considered that the impacts of the proposed clearing can be managed to be environmentally acceptable by taking steps to minimise the risk of the introduction and spread of weeds and dieback and does not constitute a significant residual impact to riparian vegetation or water quality.

Conditions

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

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

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on the Department of Water and Environmental Regulation's (DWER's) website on 16 September 2021, inviting submissions from the public within a 21-day period. One submission was received in relation to this application (see Appendix B).

As the proposal intersects a watercourse mapped within the Donnelly River System, it is understood that the proposed clearing of native vegetation and subsequent dam infrastructure will require a permit to interfere with the bed and/or banks of a watercourse (bed and banks permit) under section 17 of the *Rights in Water and Irrigation Act 1914* (RIWI Act). DWER's South West Region advised that the applicant submitted an application for a bed and banks permit on 6 September 2021 (DWER, 2021). Advice received from DWER's South West Region indicated that there were no concerns regarding water quality impacts and that the bed and banks permit is likely to be issued (DWER, 2021). It is understood that the applicant also holds two current Surface Water Licenses under the RIWI Act (SWL 151477 and SWL 200334) and that these have been modified to reflect the requirements of the proposal (DWER, 2021).

It is acknowledged that the application area intersects the Donnelly River Water Reserve, a Public Drinking Water Source Area (PDWSA) proclaimed under the *Country Areas Water Supply Act 1947* (CAWS Act). The Donnelly River Water Reserve is a groundwater resource and has not yet been assigned a priority level via a drinking water source

protection report. DWER's *Water Quality Protection Note 25 - Land use compatibility tables for public drinking water source areas* (WQPN 25), specifies that for 'priority not assigned' areas, the priority level of land within a PDWSA can be inferred based on the land's existing zoning, ownership and land use, as well as the proximity of the land to existing or proposed reservoirs, pipehead dams, and drinking water bores. According to available databases, the application area occurs on freehold land zoned as Priority Agriculture that has been historically cleared for grazing and occurs more than 2 kilometres from an existing or proposed reservoirs, pipehead dams, and drinking water bores. Therefore, the indicative priority level is Priority 3, and the application area is unlikely to occur within a Reservoir or Wellhead Protection Zone. The establishment of a dam is likely to be a compatible use within a Priority 3 PDWSA. Given the above and the extent and nature of the proposed clearing, it is not considered likely that the proposed clearing will result in significant impacts to the Donnelly River Water Reserve.

The Shire of Manjimup (the Shire) advised DWER that the property is zoned as Priority Agriculture under the Shire's Local Planning Scheme 4 and that planning approval for the clearing of vegetation is not required in this zone (Shire of Manjimup, 2021). The Shire advised that, as the purpose of the clearing is for the construction of a dam, a planning approval from the Shire will be required if the edge of the dam and/or dam wall is to be less than 20 metres from any lot boundary (Shire of Manjimup, 2021). It is noted that the final design for the proposed dam and bypass sump, approved under the related bed and banks permit, specifies that the dam wall will be 23 metres from the boundary (DWER, 2021). Based on the advice provided by the Shire, a planning approval is not expected to be required for the dam at this time. Should any future modification to the proposed dam design result in the dam wall being less than 20 metres from any lot boundary, the applicant has been advised that additional approvals from the Shire of Manjimup may be required prior to undertaking the proposed clearing.

According to available databases, no Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
<p>The applicant provided representative photographs of the vegetation communities within the application area, as well as detailed photographs of all habitat trees within the application area on 20 November 2021, at the request of DWER (Kuzich, 2021b).</p>	<p>The Delegated Officer considered the photographs provided as follows:</p> <ul style="list-style-type: none"> The representative photographs of the vegetation communities within the application area were considered to provide context to the site characteristics (see Appendix C) and were used to inform the detailed assessment of impacts to biological and water resource values (see Section 3). The representative photographs are available at Appendix F, and The detailed photographs of all habitat trees within the application area were considered in the detailed assessment of the application under <i>Biological values (fauna)</i> (see Section 3.2.1). The detailed photographs of all habitat trees are available at https://ftp.dwer.wa.gov.au/permit/9419/.

Appendix B. Details of public submissions

The clearing permit application was advertised on the Department of Water and Environmental Regulation's (DWER's) website on 16 September 2021 with a 21-day submission period. One submission was received in relation to this application during this submission period (Submission, 2021). Matters raised in the submission are summarised in the table below.

Summary of comments	Consideration of comment
<p>A comprehensive black cockatoo habitat assessment is required to quantify impacts to potential foraging and breeding habitat present within the proposed clearing area.</p>	<p>The applicant was requested to provide photographs of all habitat trees (DBH > 500 millimetres) within the application area as well as representative photographs of the vegetation types present, to clarify the requirement for a comprehensive black cockatoo habitat assessment. The Delegated Officer considered that the photographs provided adequate detail as to the potential for foraging, breeding and roosting habitat to occur within the application area, as well as the extent of these habitat resources present. In considering the photographs of the habitat trees, the extent of primary foraging species present, and the context of the broader landscape, the Delegated Officer considered that an additional black cockatoo habitat assessment was not necessary to inform the assessment of the application in this instance.</p>
<p>Foraging habitat within the application area is of potential importance, given the cumulative loss of foraging habitat and the extensively cleared areas around the application area.</p>	<p>The potential for impacts to foraging habitat was considered in the detailed assessment of the application under <i>Biological values (fauna)</i> (see Section 3.2.1).</p>
<p>It is vital to consider cumulative impacts to black cockatoo habitat. The proposed clearing should be considered in the context of the smaller, unregulated (i.e., exempt) habitat losses that are occurring across the range of these species.</p>	<p>The Delegated Officer acknowledges that exempt clearing contributes to the cumulative loss of native vegetation in an area, which may extend to suitable habitat for black cockatoo species. However, consideration of the impacts of the clearing allowed under exemption, where near this project or in the local area, cannot be quantified and is therefore is not a matter to be considered in the assessment of this application.</p> <p>The potential for impacts to foraging habitat was considered in the context of the broader landscape in the detailed</p>

Summary of comments	Consideration of comment
	assessment of the application under <i>Biological values (fauna)</i> (see Section 3.2.1).
It is important to retain all trees with large hollows within the application area, regardless of signs of use, and consideration should also be given to retaining future breeding trees.	Based on a review of the detailed photographs of all habitat trees (DBH > 500 millimetres) within the application area, the Delegated Officer considered that the trees within the application area were unlikely to contain hollows of suitable size for use for breeding by black cockatoo species. The potential for impacts to breeding habitat was considered in the detailed assessment of the application under <i>Biological values (fauna)</i> (see Section 3.2.1).
The application may impact Matters of National Environmental Significance (MNES) listed under the EPBC Act, and the application should be referred to the Commonwealth Department of Agriculture, Water and Environment (DAWE) as per the EPBC Act referral guidelines.	The applicant has been advised that any action that has, will have or is likely to have a significant impact on any MNES or other protected matters, will require approval from DAWE. It is the proponent's responsibility to ensure that they comply with the EPBC Act and refer any actions that may impact MNES.
The clearing of suitable habitat for black cockatoo species should be minimised in the first instance. Where clearing is approved, mitigation measures should aim to compensate for the habitat loss through the provisions of sufficient replacement habitat, as well as being targeted towards supporting the specific flocks that will be affected.	<p>The Delegated Officer has considered the applicant's use of the mitigation hierarchy in the detailed assessment of the application under <i>Avoidance and mitigation measures</i> (see Section 3.1).</p> <p>The potential for impacts to suitable and significant habitat for black cockatoo species was considered in the detailed assessment of the application under <i>Biological values (fauna)</i> (see Section 3.2.1). The Delegated Officer determined that impacts to black cockatoo habitat did not constitute a significant residual impact and that additional mitigation measures or environmental offsets were not required in this instance.</p> <p>As a condition of granting this permit, the applicant will also be required to implement the mitigation hierarchy on-ground when undertaking the authorised clearing.</p>

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	The areas proposed to be cleared comprise several isolated patches of native vegetation in the intensive land use zone of Western Australia. One area includes 0.77 hectares within a 2.3-hectare patch of remnant vegetation, another includes 0.67 hectares within a 2.6-hectare isolated patch, and the remaining areas are isolated fragments of native vegetation of between 0.008 and hectares 0.095 in size. All areas proposed to be cleared area surrounded by historically cleared paddock and existing dam and floodway infrastructure. Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 46.85 per cent of the original native vegetation cover (see Appendix C.2).
Ecological linkage	The application area does not intersect any formally mapped ecological linkages. The closest mapped ecological linkage is a mapped South West Regional Ecological Linkage (Molloy et al., 2009) and vegetation surveyed as part of the Roadside Conservation Committee's (RCC's) roadside conservation value mapping program in 2005 (RCC, 2005), approximately one kilometre east of the application area. Given the application area consists of fragmented and isolated patches of remnant native vegetation surrounded by historically cleared paddock, it is not considered to be contributing significantly to the values of the nearby mapped linkages or to any formal or informal ecological linkages in the local area.
Conservation areas	The closest conservation area is Faunadale Nature Reserve, located approximately two kilometres south-east of the application area, separated by historically cleared rural land. The application area also occurs within two kilometres of several Timber Reserves, separated by historically cleared paddock.
Vegetation description	<p>Photographs supplied by the applicant indicate that the vegetation within the proposed clearing area consists of:</p> <ul style="list-style-type: none"> • <i>Melaleuca</i> sp. woodland over dense blackberry (<i>Rubus</i> sp.) thicket and weed grasses, • Isolated paddock trees, including marri (<i>Corymbia calophylla</i>) and jarrah (<i>Eucalyptus marginata</i>), and • Karri (<i>Eucalyptus diversicolor</i>) woodland with limited native understorey, predominantly comprising sparse bracken fern (<i>Pteridium esculentum</i>) and weed grasses (Kuzich, 2021b). <p>Representative photos are available in Appendix F.</p> <p>This is consistent with the mapped South West Forest vegetation association Yanmah (YN1), which is described as a 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). The mapped vegetation type retains approximately 81.85 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 Completely Degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> • Good: Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it,

Characteristic	Details
	<ul style="list-style-type: none"> • Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management, and • Completely Degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species (Keighery, 1994). <p>The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos are available in Appendix F.</p>
Climate and landform	<p>The application area occurs on generally flat topography with some undulation to rises in the westernmost and easternmost extents of the application area. The application area has a mean annual maximum temperature of 20.5°C and a mean annual minimum temperature of 9.7°C. The mean annual rainfall is 1100 millimetres, and the annual evapotranspiration rate is 800 millimetres.</p>
Soil description and land degradation risk	<p>The soil is mapped within the Yanmah Subsystem (Manjimup) (254MpYN), described as shallow (5-20 m) minor valleys, usually U-shaped with gentle sideslopes (3-10%) and broad swampy floors, where soils are loamy gravels, sandy gravels, and deep sands with non-saline wet soils on the valley floors (DPIRD, 2021).</p> <p>The soil types within the application area are mapped as having a low risk of land degradation resulting from water erosion, salinity, waterlogging, flooding, and phosphorus export, but as having a moderate to high risk of wind erosion and subsurface acidification (DPIRD, 2021).</p>
Waterbodies and hydrogeography	<p>The desktop assessment and aerial imagery indicated that the application area intersects a non-perennial tributary of the Donnelly River and is adjacent to a manmade perennial earth dam. The closest wetland to the application area is a palusvale (seasonally waterlogged valley), approximately 3.2 kilometres south, separated by historically cleared land.</p> <p>The application area is mapped within the Donnelly River System, a proclaimed Surface Water Area under the <i>Rights in Water and Irrigation Act 1914</i> (the RIWI Act) and the Donnelly River Water Reserve, a Public Drinking Water Source Area (PDWSA) proclaimed under the <i>Country Areas Water Supply Act 1947</i> (CAWS Act).</p> <p>Groundwater salinity within the application area is mapped at 500 to 1000 milligrams per litre total dissolved solids.</p>
Flora	<p>The desktop assessment identified that a total of 10 conservation significant flora species have been recorded within the local area, comprising one Priority 1 (P1) flora, one Priority 2 (P2) flora, five Priority 3 (P3) flora, one Priority 4 (P4) flora, and two threatened flora (Western Australian Herbarium, 1998-). None of these existing records occur within the application area, with the closest record being an occurrence of <i>Caladenia christineae</i> (T) approximately 6.2 kilometres from the application area.</p>
Ecological communities	<p>According to available databases, there are no state-listed threatened or priority ecological communities in the local area.</p> <p>The desktop assessment identified that the closest state-listed threatened ecological community (TEC) is an occurrence of the Scott River Ironstone Association TEC, located approximately 58.2 kilometres south-west of the application area.</p> <p>The closest state-listed priority ecological community (PEC) is an occurrence of the Open Jarrah forest and woodland developed on young exposed quartzite on Ridge</p>

Characteristic	Details
	Road (Ridge Road Quartzite community) PEC, located approximately 13.2 kilometres south of the application area, separated by historically cleared land and road infrastructure.
Fauna	<p>The desktop assessment identified that a total of 20 threatened or priority fauna species have been recorded within the local area, including 10 threatened fauna species, six priority fauna species, one fauna species protected under international agreement, and three other specially protected fauna species (DBCA, 2007-). None of these existing records occur within the application area, with the closest record being an occurrence of a western ringtail possum (<i>Pseudocheirus occidentalis</i>) approximately one kilometre from the application area.</p> <p>With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), the habitat preferences and conservation statuses of the aforementioned species, and the distribution and extent of existing records, the application area may provide suitable habitat for ten conservation significant fauna species and impacts to these species required further consideration (see Appendix C.4).</p>

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion**					
Warren	833,985.56	659,432.21	79.07	558,485.38	66.97
South West Forest (Mattiske) vegetation complex*					
Yanmah, YN1	23,494.22	19,229.71	81.85	18,180.49	77.38
Local area					
10-kilometre radius	31,459.76	14,738.81	46.85	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

C.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and the distribution and extent of existing records, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Caladenia christineae</i>	EN	Y	Y	Y	6.2	1	N/A
<i>Caladenia harringtoniae</i>	VU	Y	Y	Y	8.1	2	N/A

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
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T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

C.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and the distribution and extent of existing records, impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Cacatua pastinator pastinator</i> (Muir's corella)	CD	Y	Y	7.1	3	N/A
<i>Calyptorhynchus banksii naso</i> (Forest red-tailed black cockatoo)	VU	Y	Y	2.2	18	N/A
<i>Calyptorhynchus baudinii</i> (Baudin's cockatoo)	EN	Y	Y	2.2	51	N/A
<i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo)	EN	Y	Y	2.2	11	N/A
<i>Falco peregrinus</i> (Peregrine falcon)	OS	Y	Y	3.8	7	N/A
<i>Isoodon fusciventer</i> (Quenda)	P4	N	Y	1.4	24	N/A
<i>Phascogale tapoatafa wambenger</i> (South-western brush-tailed phascogale)	CD	N	Y	1.8	42	N/A
<i>Pseudocheirus occidentalis</i> (Western ringtail possum)	CR	N	Y	1.0	124	N/A
<i>Tyto novaehollandiae novaehollandiae</i> (Masked owl)	P3	Y	Y	6.4	6	N/A

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

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>"Native vegetation should not be cleared if it comprises a high level of biodiversity."</i></p> <p><u>Assessment:</u> The area proposed to be cleared may contain suitable habitat for conservation significant flora and fauna species. However, given the area proposed to be cleared comprises degraded karri woodland, weed-infested <i>Melaleuca</i> woodland and isolated paddock trees, that have been subject to significant disturbance through historical clearing activities, grazing and weed invasion, the application area is not considered likely to comprise a high level of biodiversity.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1 and 3.2.2, above.</i>
<p><u>Principle (b):</u> <i>"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."</i></p> <p><u>Assessment:</u> The area proposed to be cleared contains potential foraging, roosting, and breeding habitat for three conservation significant fauna species.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> <i>"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</i></p> <p><u>Assessment:</u> The area proposed to be cleared may contain suitable habitat for two flora species listed under the BC Act.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><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> The area proposed to be cleared comprises degraded karri woodland, weed-infested <i>Melaleuca</i> woodland and isolated paddock trees, that have been subject to significant disturbance through historical clearing activities, grazing and weed invasion, and is not considered to comprise vegetation representative of any threatened ecological community (TEC) listed under the BC Act or EPBC Act. Given the distance and separation from the nearest TEC, the proposed clearing is not likely to impact or be necessary for the maintenance of any TEC.</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> The extent of the mapped vegetation type and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia (see Appendix C.2). The vegetation proposed to be cleared comprises isolated vegetation within a historically cleared paddock and 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> Given the distance and separation from the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of any nearby conservation areas.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
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> Given the application area intersects a mapped water body, the application area is considered to include riparian vegetation and the proposed clearing may impact on- or off-site hydrology and water quality.</p>	At variance	Yes <i>Refer to Section 3.2.3, above.</i>
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils are moderately susceptible to wind erosion and subsurface acidification. Noting the extent of the proposed clearing, the highly disturbed condition of the vegetation, and that the final land use will be a constructed dam and floodway that will not leave bare ground exposed to weathering for extended periods, 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> Given the application area intersects a mapped water body, the proposed clearing may result in short-term impacts surface or ground water quality.</p>	May be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<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> The mapped soils and topographic contours in the surrounding area do not indicate that the application area is susceptible to flooding. Noting this, the extent of the proposed clearing, and the condition of the vegetation, the proposed clearing itself is unlikely to contribute to increased incidence or intensity of flooding. It is noted that the purpose of the proposed clearing is to construct a dam that will result in flooding to the water footprint.</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. Photographs of the vegetation

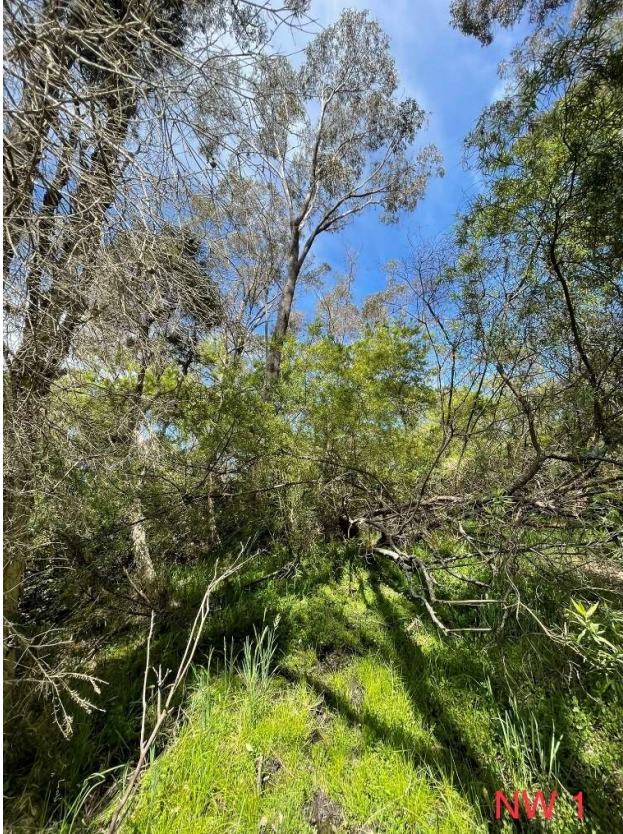
a)



b)



c)



d)



e)



f)



g)



h)



i)



j)



k)



l)



m)



n)



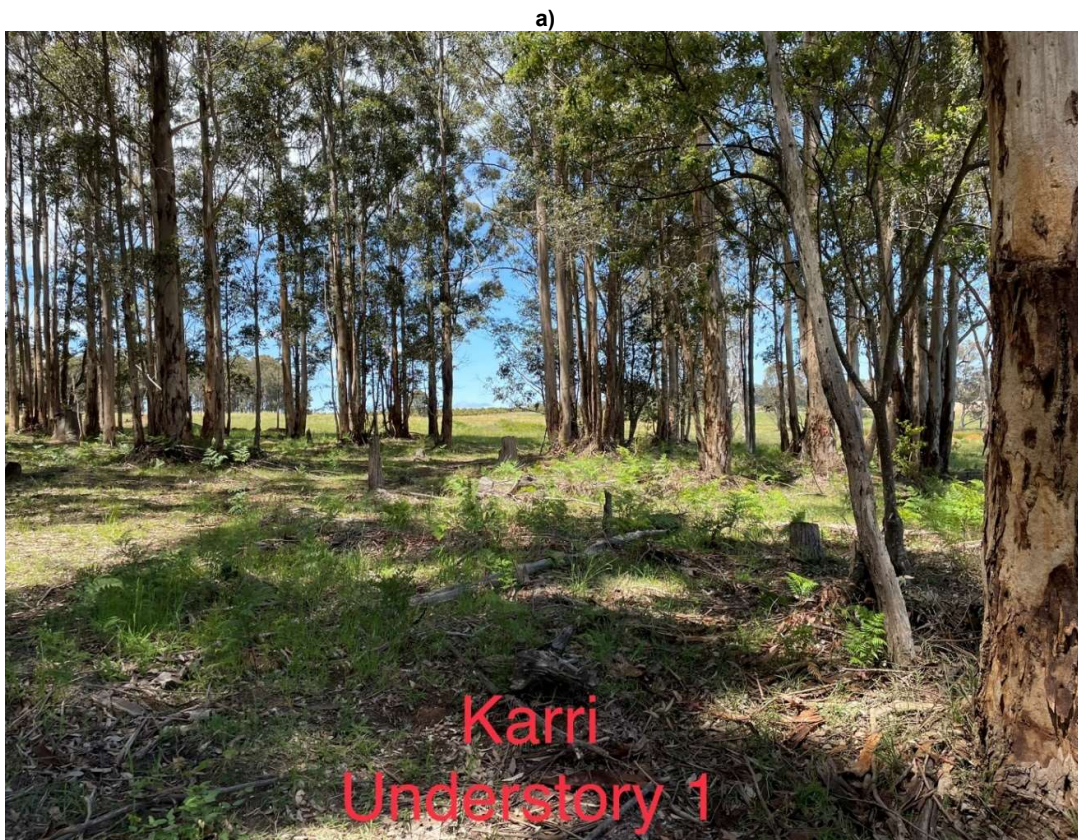


Figure 3(a-p). Representative photographs of vegetation at the western extent of the proposed clearing area for CPS 9419/1* (Kuzich, 2021b).





Figure 4(a-d). Representative photographs of paddock trees within the centre of the proposed clearing area for CPS 9419/1* (Kuzich, 2021b).



b)



c)



Figure 5(a-c). Representative photographs of understory at the eastern extent of the proposed clearing area for CPS 9419/1* (Kuzich, 2021b).

*Detailed photographs of all habitat trees within the application area are available at <https://ftp.dwer.wa.gov.au/permit/9419/>.

Appendix G. Sources of information

G.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)
- Bush Forever Areas 2000 (DPLH-019)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- CAWSA Part 2A Clearing Control Catchments (DWER-004)
- Consanguineous Wetlands Suites (DBCA-020)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- DBCA Statewide Vegetation Statistics
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Geomorphic Wetlands Manjimup to Northcliffe - Unreviewed (DBCA-044)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments - Catchments (DWER-028)
- Hydrographic Catchments - Divisions (DWER-029)
- Hydrography, Linear (Hierarchy) (DWER-031)
- 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 (DPIRD-006)
- 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 (DPIRD-027)
- Soil Landscape Mapping – Systems (DPIRD-064)
- Vegetation Complexes - South West forest region of Western Australia (DBCA-047)

Restricted GIS Databases used:

- Conservation Covenants Western Australia (DPIRD-023)
- Contaminated Sites Database - Restricted (DWER-073)
- 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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