GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8731/1
Permit Holder:	Shire of Cuballing
Duration of Permit:	15 April 2020 15 April 2025

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done
Clearing for the purpose utilising blackspot funding to improve road safety.

2. Land on which clearing is to be done
Lot 9657 on Plan 138953, Cuballing
Wandering-Narrogin Road Reserve (PIN 11527769), Cuballing
Springhill Road Reserve (PIN 11527747), Cuballing
Nebrikinning Road Reserve (PIN 11527746), Cuballing
Wandering-Narrogin Road Reserve (PIN 11527770), Mingin

3. Area of Clearing
The Permit Holder must not clear more than 0.28 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8731/1(a).

4. Application
This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of clearing authorised
This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

PART II – MANAGEMENT CONDITIONS

6. Avoid, minimise and reduce the impacts and extent of clearing
In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in 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.

7. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the 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.

8. Fauna management – *Black cockatoo species*

(a) Within 48 hours of undertaking any clearing authorised under this Permit:

(i) the area shaded yellow on attached Plan 8731/1(a) shall be inspected by a *fauna specialist* who shall inspect *black cockatoo breeding trees*; and

(ii) each *black cockatoo breeding tree* identified shall be inspected by a *fauna specialist* for evidence of current or past breeding use by *Black cockatoo species*.

(b) Where a *black cockatoo breeding tree(s)* with evidence of current breeding use by *Black cockatoo species* is identified and cannot be avoided in accordance with condition 6(a) of this Permit, that tree(s) shall be monitored by a *fauna specialist* to determine when it is no longer in use for that breeding season.

(c) Any *black cockatoo breeding tree(s)* with evidence of current breeding use by *black cockatoo species* shall not be cleared whilst it is in use for that breeding season as determined by the *fauna specialist* under condition 8(b) of this Permit.

(d) Where a *black cockatoo breeding tree(s)* with evidence of past breeding use by *black cockatoo species* is identified and cannot be avoided in accordance with condition 6(a) of this Permit, that tree(s) shall only be cleared:

(i) outside the *black cockatoo species breeding season*; or

(ii) later the same day of the inspection required by condition 8(a)(ii) of this Permit; or

(iii) later the same day of a repeat inspection undertaken by a *fauna specialist* if that inspection does not identify evidence of current breeding use.

(e) For each *black cockatoo breeding tree* with evidence of current or past breeding use by *black cockatoo species* identified, that cannot be avoided in accordance with condition 6(a) of this Permit, the Permit Holder shall install an artificial black cockatoo nest hollow.

(f) Each artificial black cockatoo nest hollow required by condition 8(e) of this Permit must be installed prior to commencement of the next *black cockatoo species breeding season* following clearing of the related *black cockatoo breeding tree*.

(g) The artificial black cockatoo nest hollow(s) required by condition 8(e) of this Permit must:

(i) be installed within Nebrikinning Road Reserves (PINs 11527746, 11527745 and 1152774), Cuballing;

(ii) be designed and placed in accordance with the guidelines provided in Schedule 1 to this Permit; and

(iii) be monitored and maintained in accordance with the guidelines provided in Schedule 2 to this Permit, for a period of at least ten years.

9. Fauna management – red-tailed phascogale

(a) Within 48 hours of undertaking any clearing authorised under this Permit:
   (i) the area shaded yellow on attached Plan 8731/1(a) shall be inspected by a *fauna specialist* who shall identify *red-tailed phascogale habitat trees*; and
   (ii) each *red-tailed phascogale habitat tree* identified shall be inspected by a *fauna specialist* for evidence of use by red-tailed phascogale (*Phascogale calura*).

(b) Where a *red-tailed phascogale habitat tree(s)* occupied by red-tailed phascogale is identified and cannot be avoided in accordance with condition 6(a) of this Permit, that tree(s) shall only be cleared:
   (i) immediately after a repeat inspection undertaken by a *fauna specialist* if that inspection confirms it is not occupied by red-tailed phascogale.

(c) Where a *red-tailed phascogale habitat tree(s)* with evidence of use (but not occupied) by red-tailed phascogale is identified and cannot be avoided in accordance with condition 6(a) of this Permit, that tree(s) shall only be cleared:
   (ii) immediately after the inspection; or
   (iii) immediately after a repeat inspection undertaken by a *fauna specialist* if that inspection confirms it is not occupied by red-tailed phascogale.

(d) For each *red-tailed phascogale habitat tree*, that cannot be avoided in accordance with condition 9(b) and 9(c) of this Permit, the Permit Holder shall install a nest box.

(e) The nest boxes (s) required by condition 9(d) of this Permit must:
   (iv) be installed within Nebrikinning Road Reserves (PINs 11527746, 11527745 and 1152774), Cuballing; and
   (v) be designed and placed in accordance with the guidelines provided in Schedule 3 to this Permit.

10. Offset – Lot 434 on Deposited Plan 84296 (being Crown Reserve 2556)

(a) By 10 October 2020, the Permit Holder shall provide to the *CEO* a copy of the executed change in purpose of the area hatched red on attached Plan 8731/1(b) within Lot 434 on Deposited Plan 84296 (Crown Reserve 2556) from 'Gravel' to 'Conservation'.

(b) In the event that the change in purpose of Lot 434 on Deposited Plan 84296 (being Crown Reserve 2556) is not achieved in accordance with condition 10(a):
   (i) the Permit Holder must submit a new offset proposal for the *CEO*'s approval by 17 October 2020; and
   (ii) in preparing an offset proposal in accordance with condition 10(b)(i), the Permit Holder must comply with the principles in the Government of Western Australia's *WA Environmental Offsets Policy* (September 2011) and have regard to the *WA Environmental Offsets Guidelines* (August 2014).

PART III – RECORD KEEPING AND REPORTING

11. Record keeping

The Permit Holder must maintain the following records in relation to the clearing of native vegetation authorised under this Permit:

(a) 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 or decimal degrees;
(b) the date(s) that the area was cleared;
(c) the size of the area cleared (in hectares);
(d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 6 of this Permit;
(e) actions taken to minimise the risk of the introduction and spread of *dieback* and *weeds* in accordance with condition 7 of this Permit;

(f) actions taken in accordance with condition 8 of this Permit; and
(g) actions taken in accordance with condition 9 of this Permit.

12. Reporting

(a) At least 48 hours prior to commencing clearing authorised under this Permit, the Permit Holder shall advise the *CEO* in writing of the date that clearing is scheduled to commence.
(b) On or before 30 June of each year following the commencement of clearing authorised under this Permit, the Permit Holder must provide to the *CEO* a written report of records required under condition 11 of this Permit.
(c) The Permit Holder must produce the records required under condition 11 of this Permit when required by the *CEO*.

DEFINITIONS

The following meanings are given to terms used in this Permit:

black cockatoo breeding season means the known breeding season of all *black cockatoo species*;

black cockatoo breeding tree/s means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater (or 30 centimetres or greater for *Eucalyptus salmonophloia* or *Eucalyptus wandoo*) that contain hollows suitable for breeding by *black cockatoo species*;

black cockatoo species means forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) and Carnaby's cockatoo (*Calyptorhynchus latirostris*);

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

dieback means the effect of *Phytophthora* species on native vegetation;

fauna specialist: means a person who holds a tertiary qualification specializing 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 *Biodiversity Conservation Act 2016*;

fill means material used to increase the ground level, or fill a hollow;

habitat tree(s) means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater (or 30 centimetres or greater for *Eucalyptus salmonophloia* or *Eucalyptus wandoo*).

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;

red-tailed phascogale habitat tree(s) means a tree of the *Eucalyptus* genus that contains a hollow(s) suitable to be used by red-tailed phascogale (*Phascogale calura*);

weed/s means any plant -

(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; 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.

Samara Rogers
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

25 March 2020

Plan 8731/1(a)

Legend

CPS areas approved to clear

Local Government Authority (LGA) Boundaries (LGATE-233)

Road Centrelines

Cadastre - LGATE 218

N

0 60 120 180 240 m

Samara Rogers

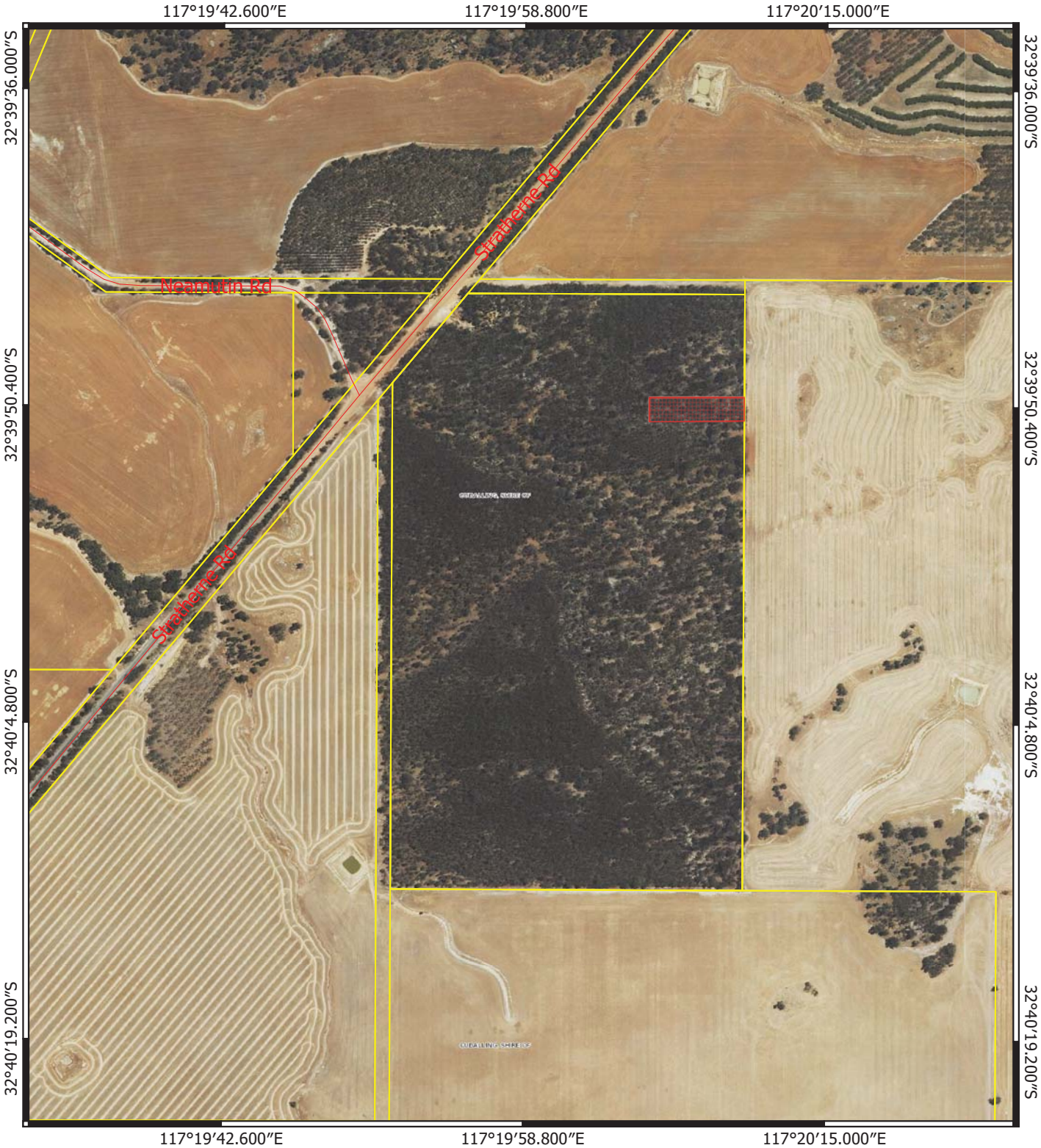
2020.03.25 11:54:17

+08'00'

Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Plan 8731/1(b)



Legend

- CPS subject to conditions
- Local Government Authority (LGA) Boundaries (LGATE-233)
- Road Centrelines
- Cadastre - LGATE 218

N

0 100 200 300 400 m

Samara Rogers
2020.03.25 11:52:50
+08'00'

Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

Permit application details

Permit application No.:	CPS 8731/1
Permit type:	Purpose Permit

Applicant details

Applicant's name:	Shire of Cuballing
Application received date:	15 November 2019

Property details

Property:	Lot 9657 on Deposited Plan 138953, Cuballing Wandering-Narrogin Road Reserve (PIN 11527769), Cuballing Springhill Road Reserve (PIN 11527747), Cuballing Nebrikinning Road Reserve (PIN 11527746), Cuballing Wandering-Narrogin Road Reserve (PIN 11527770), Mingin
Local Government Authority:	Shire of Cuballing Shire of Narrogin
Localities:	Cuballing Mingin

Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.23		Mechanical	Road upgrades and construction

Decision on application

Decision on Permit Application:	Grant
Decision Date:	25 March 2020
Reasons for Decision:	The clearing permit application was received has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing is at variance with principles (b) and (e), and is not likely to be at variance with the remaining clearing principles. Although no evidence of use by fauna has been identified, it has been determined that the proposed clearing may result in impacts to potential breeding habitat for the forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*), Carnaby's cockatoo (*Calyptorhynchus latirostris*) and the red-tailed phascogale (*Phascogale calura*). A fauna management condition has been placed on the clearing permit to require inspection of habitat trees immediately prior to and during clearing, to minimise these impacts. It has been determined that the proposed clearing will result in the following residual impacts: • Loss of 0.28 hectares of native vegetation that is considered significant as a remnant of vegetation in an area that has been extensively cleared; and • Loss of 0.28 hectares of foraging habitat for black cockatoo species (forest red-tailed black cockatoo, Carnaby's cockatoo and Baudin's cockatoo [*Calyptorhynchus baudinii*]). Noting that the application is for the purpose of utilising Local and State Government Black Spot Program funding to improve road safety, it is considered that the above residual impacts can be counterbalanced through the conservation of 0.438 hectares of Crown Reserve 2556 as an offset. Through the assessment it was identified that the proposed clearing may impact surrounding native vegetation through the introduction and spread of weeds and dieback. A weed management and dieback control condition has been placed on the clearing permit to minimise the risk of weeds and dieback spreading into adjacent areas of remnant vegetation In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description

The application is for the proposed clearing of 0.28 hectares of native vegetation, within Lot 9657 on Plan 138953, Wandering-Narrogin Road Reserve (PIN 11527769), Springhill Road Reserve (PIN 11527747), and Nebrikinning Road Reserve (PIN 11527746) Cuballing, and Wandering-Narrogin Road Reserve (PIN 11527770), Mingin, for the purpose of utilising Local and State Government Black Spot Program funding to improve road safety.

Vegetation Description

The vegetation within the application area is mapped within Beard vegetation association 1023, described as medium woodland of York gum, wandoo and salmon gum (*Eucalyptus salmonophloia*) (Shepherd *et al*., 2001).

A site inspection conducted by the Department of Water and Environmental Regulation (DWER) determined that the vegetation within the application area consists of open woodland comprising predominately *Eucalyptus rudis* (flooded gums), *Eucalyptus wandoo*, *Eucalyptus loxophleba* (York gum), *Casuarina* sp. (Sheoak), *Acacia* sp. and other *Eucalyptus* sp. (DWER, 2020). DWER officers observed that the understorey within the application area had been heavily disturbed and was entirely absent of native species (DWER, 2020).

Vegetation Condition

The condition of the vegetation within the application area ranges from Degraded to Completely Degraded (Keighery, 1994) condition, defined as:

- Degraded: Basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994); 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).

The vegetation condition of the application area was determined through a site inspection undertaken by DWER officers (DWER, 2020).

Soil Type:

The soil type within the application area is mapped as the Noombling subsystem (257DyNB), described as long gentle and undulating hillslopes and divides. Colluvium / weathered granite, gneiss and some dolerite. Yellow/brown and grey deep sandy duplexes, brown deep loamy duplexes, sandy gravels and shallow duplexes. Marri-Wandoo / Jam-Sheoak (DPIRD, 2017).

Local Area:

The local area referred to in the assessment of this application is defined as a 10 kilometre (km) radius measured from the perimeter of the application area.

Figure 1. Application area (outlined in blue).

Figure 2. Photographs of the application area, taken during a site inspection conducted by DWER officers (DWER, 2020).

3. Avoidance and minimisation measures

During the site inspection conducted by DWER officers, the applicant advised that the Shire of Cuballing (the Shire) was committed to retaining native vegetation, and had restricted the road upgrade design to one side of the existing road in order to minimise the amount of native vegetation required to be cleared (DWER, 2020). As this application is a Blackspot funded project, the applicant has advised that the clearing of native vegetation has been restricted to the minimum amount necessary to improve road safety and prevent traffic accidents in a notoriously hazardous intersection (DWER, 2020).

The applicant advised that the Shire has plans to rehabilitate the existing road following the completion of the proposed upgrades (DWER, 2020).

The applicant advised that three of the hollow-bearing trees within the application would need to be removed for the proposed road upgrades to improve road safety (Shire of Cuballing, 2020). However, the Shire planned to retain one of the hollow-bearing wandoo trees, depending on the on-ground requirements of the road upgrades which would not be apparent until development had commenced (Shire of Cuballing, 2020).

4. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Proposed clearing is not likely to be at variance with this principle

A review of available databases determined that a total of 16 threatened or priority flora have been recorded within the local area, comprising five Priority 2 (P2) flora, four Priority 3 (P3) flora, five Priority 4 (P4) flora, and two threatened flora (Western Australian Herbarium, 1998-). None of these records occur within the application area. Based on the habitat preferences of the above species, including soil type and vegetation association, the application area may contain habitat for the following priority species:

- *Anthotium odontophyllum* (P3);
- *Banksia cynaroides* (P4);
- *Gastrolobium ovalifolium* (P4); and
- *Gastrolobium stipulare* (P4).

As assessed under Principle (c), the application area may also comprise, or provide suitable habitat for one threatened flora species recorded within the local area. However, a DWER site inspection determined that the vegetation within the application area consists primarily of *Eucalyptus* sp., sheoak and *Acacia* sp. and is in Degraded (Keighery, 1994) to Completely Degraded (Keighery, 1994) condition, with native understorey species virtually absent (DWER, 2020). Based on the DWER site inspection, the application area is not likely to comprise suitable habitat for rare or priority flora and is not likely to comprise a high level of floristic diversity.

According to available databases, there are no mapped state-listed threatened ecological communities (TECs) within the local area. Part of the application area is mapped within the Eucalypt Woodlands of the Western Australian Wheatbelt, a state-listed priority ecological community (PEC) and Commonwealth-listed TEC. Given the Degraded (Keighery, 1994) to Completely Degraded (Keighery, 1994) condition of the vegetation within the application area and the width of the roadside remnants being less than 5 metres (DWER, 2020), the vegetation proposed to be cleared is not likely to be representative of this community. Therefore, the application area is not likely to comprise the whole or part of, or be necessary for the maintenance of a TEC or PEC.

As assessed under Principle (b), the application area may comprise suitable habitat for four threatened fauna species. This includes potential breeding habitat for the forest red-tailed black cockatoo [*Calyptorhynchus banksii naso*], Carnaby's cockatoo [*Calyptorhynchus latirostris*]) and the red-tailed phascogale (*Phascogale calura*), as well as foraging habitat for black cockatoo species (forest-red-tailed black cockatoo, Baudin's cockatoo [*Calyptorhynchus baudinii*] and Carnaby's cockatoo). A site inspection undertaken by DWER officers and subsequent fauna surveys identified no signs of use by fauna within the application area (DWER, 2020; Ecoedge, 2020). Although the application area is a remnant of vegetation within a highly fragmented landscape, the application area is not likely to be significant as an ecological linkage as it comprises sparse vegetation in degraded condition, limited canopy connectivity and is isolated from larger expanses of better quality native vegetation in the local area.

Noting the vegetation within the application area may provide habitat for conservation significant fauna species, the vegetation proposed to be cleared does not comprise a TEC or PEC, is in Degraded (Keighery, 1994) to Completely Degraded (Keighery, 1994) condition, and contains minimal floristic diversity. Noting the above, the application area is not likely to comprise a high level of biological diversity and the proposed clearing is not likely to be at variance with this principle.

(b) 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.

Proposed clearing may be at variance with this principle

A total of 12 threatened fauna species have been recorded within the local area, including seven threatened fauna, four priority fauna and one other specially protected fauna species (DBCA, 2007-). None of these records occur within the application area. Based on the existing records, habitat preferences and habitat requirements of the above species, the application area may contain suitable habitat for four of the above threatened fauna species; the forest red-tailed black cockatoo, Baudin's cockatoo, Carnaby's cockatoo, and the red-tailed phascogale (Phascogale calura).

Black cockatoo species

'Breeding habitat' for black cockatoo species is defined as trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (Commonwealth of Australia, 2012). Suitable DBH for nest hollows is 500 millimetres for most tree species, but is reduced to 300 millimetres for wandoo and salmon gum (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 12 kilometres of the application area, making it a suitable location for breeding if appropriate hollows are present. The application area is mapped within the predicted breeding and occurrence range for both Carnaby's cockatoo and the forest red-tailed black cockatoo (Commonwealth of Australia, 2012). However, the application area is mapped outside the predicted breeding range for Baudin's cockatoo (Commonwealth of Australia, 2012), and so is not expected to provide significant breeding habitat for this species.

The site inspection undertaken by DWER officers identified four wandoo trees with hollows, and observed that all of these trees may be suitable for nesting by black cockatoo species (DWER, 2020). During the inspection, no signs of use by black cockatoos were observed for any potential habitat tree (DWER, 2020). A fauna survey undertaken in February 2020 by Ecoedge (2020) confirmed that the application area contains four wandoo trees that may provide suitable breeding habitat for black cockatoo species, i.e. had a DBH greater than 300 millimetres and contained nest hollows. Inspection of these hollows determined that in three of the habitat trees, hollow entrances appeared narrow and led into shallow branches or trunks, unlikely to accommodate a black cockatoo (Ecoedge, 2020). The remaining habitat tree contained a side entry hollow, with an entrance large enough for a black cockatoo to enter, however the internal dimensions of the hollow were shallow and deemed unsuitable for nesting by black cockatoo species (Ecoedge, 2020). Three of the habitat trees showed no signs of use by any fauna, while one of the trees showed signs of subtle use by smaller parrot species (Ecoedge, 2020). Noting the above, the application area is not likely to provide suitable or significant breeding habitat for any black cockatoo species. Given no evidence of use by conservation significant fauna has been identified within the application area (DWER, 2020; EcoEdge, 2020) and it is unlikely that the application area provides significant breeding habitat for these species, a fauna management condition requiring inspection of habitat trees immediately prior to and for the duration of clearing, is considered to mitigate impacts to black cockatoo species.

Black cockatoo species are noted to forage on a range of plant species, predominantly the seeds and flowers of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and proteaceous species (e.g. *Banksia* spp., *Hakea* spp. and *Grevillea* spp.) (Commonwealth of Australia, 2012). In the absence of these species, black cockatoos have also been observed to forage on the seeds of various *Eucalyptus* spp., including wandoo (Commonwealth of Australia, 2012). No evidence of foraging by black cockatoo species was observed during the DWER site inspection (DWER, 2020) or during subsequent fauna surveys (Ecoedge, 2020). However, as the application area may provide some suitable foraging habitat for black cockatoos and occurs within 12 kilometres of recorded breeding habitat, the application area may comprise significant foraging habitat for black cockatoo species.

An offset to conserve 0.438 hectares of foraging habitat for black cockatoos within Crown Reserve 2556 is considered to address the residual impacts to black cockatoo species resulting from the proposed clearing.

Red-tailed phascogale

The red-tailed phascogale is an arboreal, carnivorous marsupial typically associated with long unburnt woodlands with continuous canopy, dominated by *Allocasuarina* species and hollow-producing eucalypts, in particular wandoo and York gum (Threatened Species Scientific Committee, 2016). As discussed above, the site inspection undertaken by DWER officers identified vegetation consistent with suitable habitat for the red-tailed phascogale, as well as four hollow-bearing trees that may provide significant diurnal refugia and breeding habitat (DWER, 2020). However, no signs of use by red-tailed phascogales or other fauna species, (e.g. tree scratching, scats, etc.) were observed for any potential habitat tree during the site inspection (DWER, 2020). As discussed above, a fauna survey undertaken by Ecoedge (2020) identified that three of the habitat trees showed no signs of use by any fauna, while one of the trees showed signs of subtle use by smaller parrot species. Further, the application area contains sparse vegetation in degraded condition, limited canopy connectivity and is isolated from larger expanses of better quality native vegetation that are more likely to provide a source of individuals (e.g. Rosedale Nature Reserve). Noting the above, it is not likely that the hollow-bearing trees within the application area would provide significant habitat for the red-tailed phascogale. Given no evidence of use by conservation significant fauna has been identified within the application area (DWER, 2020; EcoEdge, 2020) and it is unlikely that the application area provides significant habitat for the species, a fauna management condition requiring inspection of habitat trees immediately prior to and for the duration of clearing, is considered to mitigate impacts to the red-tailed phascogale.

As discussed in Principle (a), the application area is a remnant of native vegetation within a highly fragmented landscape. Within a fragmented landscape, remnant vegetation is likely to function as an ecological linkage between areas of remnant vegetation in the local area, and to provide refuge for fauna moving through the landscape. However, the application area contains sparse vegetation in degraded condition and is isolated from larger remnants of better quality native vegetation in the local area. On this basis, the proposed clearing is not likely to impact fauna moving through the landscape.

As the application area contains potential breeding habitat for black cockatoo species and the red-tailed phascogale, and may contain significant foraging habitat for black cockatoo species, the proposed clearing is at variance with this principle.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, Threatened flora.

Proposed clearing is not likely to be at variance with this principle

As discussed in Principle (a), a review of available databases determined two threatened flora have been recorded within the local area (Western Australian Herbarium, 1998-). From available databases, an assessment of the habitat requirements of these species indicated that the vegetation associations and soil type present in the application area may provide suitable habitat for one of these species; *Darwinia carnea*.

Darwinia carnea is known from a total of 21 records from Victoria Plains to Cranbrook, and is typically associated with low *Eucalyptus* woodland over scrub or heath in soils of lateritic loam or gravel (Western Australian Herbarium, 1998-). As discussed in Principle (a), the vegetation within the application area consists primarily of *Eucalyptus* sp., sheoak and *Acacia* sp. and is in Degraded (Keighery, 1994) to Completely Degraded (Keighery, 1994) condition, with native understorey species virtually absent (DWER, 2020). Known natural populations of *Darwinia carnea* are predominantly within private property, State Forest or nature reserve, and are highly susceptible to disturbance including grazing, drought, weed invasion and trampling (Department of Environment and Conservation, 2009). Noting this, along with the observed vegetation condition and absence of native understorey species, the application area is not likely to provide suitable habitat for *Darwinia carnea*.

Given the above, the proposed clearing is not likely to be at variance with this principle.

(d) 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.

Proposed clearing is not likely to be at variance with this principle

According to available databases, there are no mapped state-listed TECs in the local area. The closest mapped TEC, Perched wetlands of the Wheatbelt region with extensive stands of *Casuarina obesa* and *Melaleuca strobophylla*, occurs approximately 42 kilometre east of the application area.

Given the above, the application area is not likely to comprise the whole or a part of, or be necessary for the maintenance of a state-listed TEC and the proposed clearing is not likely to be at variance with this principle.

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Proposed clearing is at variance with this principle

The national objectives and targets for biodiversity conservation in Australia has a target 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).

The application area is located within the Avon Wheatbelt Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion which retains approximately 18.51 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). The mapped Beard vegetation association 1023, retains approximately 10.84 per cent of its pre-European vegetation extent within the Avon Wheatbelt IBRA Bioregion (Table 1). The local area retains approximately 20.08 per cent vegetation cover, of which the application area represents less than 0.001 per cent of the remaining vegetation and would reduce the extent of native vegetation within the local area to 6,315.97 hectares.

Noting the current vegetation extent for the Avon Wheatbelt IBRA Bioregion, the mapped Beard vegetation association and the local area are all below the 30 per cent threshold, the local area is considered to be extensively cleared. Further, as discussed in Principles (a) and (b), the vegetation within the application area may be significant as a remnant of native vegetation, providing suitable habitat for conservation significant fauna, and providing some function as an ecological linkage between areas of remnant vegetation in the local area.

Given the above, the application area is likely to be significant as a remnant of native vegetation in an area that has been extensively cleared and the proposed clearing is at variance with this principle.

An offset to conserve 0.438 hectares of Crown Reserve 2556 is considered to address the residual impacts to clearing a significant remnant in an extensively cleared area. As discussed in Principle (b), this offset includes 0.438 hectares of black cockatoo foraging habitat.

Table 1: Vegetation representation statistics (Government of Western Australia, 2018)

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current Extent in DBCA Managed Lands	
				(ha)	(%)
IBRA Bioregion					
Avon Wheatbelt	9,517,109.9	1,761,187.42	18.51	174,980.7	1.84
Beard vegetation association					
1023	1,601,605.8	172,875.2	10.79	18,926	1.18
Beard vegetation association in IBRA bioregion					
1023 (Avon Wheatbelt)	1,522,680.4	165,123.6	10.84	17,277.6	1.13
Local Area					
10 kilometre radius	31,449.5	6,316.2	20.08	-	-

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is not likely to be at variance with this principle

According to available datasets, no watercourses or wetlands are mapped within or occur in close proximity to the application area. The closest watercourse, 14 Mile Brook, is non-perennial and located approximately 1.2 kilometre north of the application area. Available datasets indicate that 14 Mile Brook may occasionally provide minor, non-perennial run off along waterlines adjacent to or intersecting the application area. However, the DWER site inspection recorded no evidence of a watercourse or any distinct riparian vegetation within the application area (DWER, 2020). Therefore, the vegetation present within the application area is not likely to be growing in, or in association with, an environment associated with a watercourse or wetland.

Given the above, the proposed clearing is not likely to be at variance with this principle.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing is not likely to be at variance with this principle

The soil type within the application area is mapped as the Noombling subsystem (257DyNB), described as long gentle and undulating hillslopes and divides. Colluvium / weathered granite, gneiss and some dolerite. Yellow/brown and grey deep sandy duplexes, brown deep loamy duplexes, sandy gravels and shallow duplexes. Marri-Wandoo / Jam-Sheoak (DPIRD, 2017).

As indicated in Table 2, the soil type mapped within the application area presents a low risk of land degradation, with the exception of subsurface acidification which presents a high risk. Given the extent of the proposed clearing, that the landscape is extensively cleared, and that the application area is in Degraded (Keighery, 1994) to Completely Degraded (Keighery, 1994) condition, the proposed clearing is not likely to significantly impact subsurface acidification.

Given the above, the proposed clearing is not likely to cause appreciable land degradation and the proposed clearing is not likely to be at variance with this principle.

Table 2: Land degradation risk levels

Risk categories	Noombling Subsystem (257DyNB)
Wind erosion	10-30% of map unit has a high to extreme wind erosion risk
Water erosion	<3% of map unit has a high to extreme water erosion risk
Salinity	3-10% of map unit has a moderate or high salinity risk or is presently saline
Subsurface Acidification	>70% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	<3% of the map unit has a moderate or high flood risk
Waterlogging	<3% of map unit has a moderate or high waterlogging risk
Phosphorus export risk	10-30% of map unit has a high to extreme phosphorus export risk

(h) 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.

Proposed clearing is not likely to be at variance with this principle

According to available databases, there are no conservation areas within or directly adjacent to the application area. The closest conservation area, Rosedale Nature Reserve is located approximately 3.6 kilometre north-east of the application area. As discussed under Principles (a) and (b), the application area may function as an ecological linkage between areas of remnant vegetation in the local area, including Rosedale Nature Reserve. However, given the distance between the application area and nearby conservation areas and the extent of the proposed clearing, it is not likely that the proposed clearing will impact on the environmental values of any adjacent or nearby conservation area.

Noting the above, the proposed clearing is not likely to be at variance with this principle.

(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.

Proposed clearing is not likely to be at variance with this principle

The application area lies within the Murray River System, a proclaimed surface water area under the *Rights in Water and Irrigation Act 1914* (the RIWI Act). However, as discussed in Principle (f), the closest watercourse to the application area is non-perennial and located approximately 1.2 kilometre from the application area. Given the distance to the nearest surface water source, the proposed clearing is not likely to cause deterioration in the quality of surface water.

Groundwater salinity within the application area is mapped between 7000 to 14000 milligrams per litre total dissolved solids and the application area does not lie within any groundwater areas proclaimed under the *Rights in Water and Irrigation Act 1914* (the RIWI Act). Noting this, the extent of the proposed clearing, and that the application area is in Degraded (Keighery, 1994) condition, the proposed clearing is not likely to cause deterioration in the quality of underground water.

Given the above, the proposed clearing is not likely to be at variance with this principle.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance with this principle

The mean annual rainfall for the local area is recorded at 512.5 mm. As discussed in Principle (g), the application area has a low risk of both flooding and waterlogging. Noting the soil type, that the vegetation is in Degraded (Keighery, 1994) to Completely Degraded (Keighery, 1994) condition, the extent of the proposed clearing, and the relatively low annual rainfall in the local area, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding.

The proposed clearing is not likely to be at variance with this principle.

Planning instruments and other relevant matters.

The clearing permit application was advertised on the Department of Water and Environmental Regulation's website on 10 December 2019, inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

The clearing permit application has been submitted as part of the Local and State Government Black Spot Program (Shire of Cuballing, 2019). The Wandering-Narrogin and Springhill Road intersection has been identified as a risk to public safety with the potential to cause serious injury or fatality (Shire of Cuballing, 2019).

The Shire of Narrogin advised that they were in full support of the Shire of Cuballing's application to remove native vegetation in the application area for the purpose of road realignment to create a safer passage of road (Shire of Narrogin, 2019). The Shire of Narrogin acknowledged that the section of road to be upgraded is particularly hazardous and required realignment to prevent traffic accidents resulting in serious injury or fatality (Shire of Narrogin, 2019). The Shire of Narrogin advised that there are no Shire of Narrogin Town Planning issues affecting this application (Shire of Narrogin, 2019).

There are no Aboriginal Sites of Significance mapped within the application area.

4. References

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.
Department of Biodiversity, Conservation and Attractions (2007-). NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. Available from: http://naturemap.dpaw.wa.gov.au/ (accessed January 2020).
Department of Environment and Conservation (2009). Mogumber and Narrogin Bell (*Darwinia carnea*) Recovery Plan. Department of Environment and Conservation, Western Australia.
Department of Primary Industries and Regional Development (DPIRD) (2017). NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Available from: https://maps.agric.wa.gov.au/nrm-info/ (accessed January 2020). Government of Western Australia.
Department of Water and Environmental Regulation (DWER) (2020) Site inspection report for clearing permit application CPS 8731/1, undertaken 9 January 2020. DWER Ref: A1865287.
Ecoedge (2020) Black cockatoo habitat tree assessment, CPS 8731/1, Wandering-Narrogin Road/Springhill Road Intersection, Shire of Cuballing. DWER Ref: A1873184.
Government of Western Australia (2019). 2018 State-wide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, Perth.
Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
Shire of Cuballing (2019) Clearing permit application CPS 8731/1 and supporting information. DWER Ref: A1842319.
Shire of Cuballing (2020) Correspondence regarding mitigation measures, dated 5 February 2020. DWER Ref: A1864939.
Shire of Narrogin (2019) Comment on clearing permit application CPS 8731/1, dated 11 December 2019. DWER Ref: A1862553.
Threatened Species Scientific Committee (2016). Conservation Advice: *Phascogale calura*, red-tailed phascogale. Department of the Environment and Energy, Canberra.
Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. Available from: http://florabase.dpaw.wa.gov.au/ (accessed January 2020).

5. GIS Datasets

- Aboriginal Sites of Significance
- DBCA Managed Estate
- Directory of Important Wetlands
- Geomorphic Wetlands Swan Coastal Plain
- Hydrography, hierarchy
- Hydrography, linear
- Land Degradation datasets
- NatureMap
- Perth Groundwater Mapping (DWER)
- Remnant Vegetation
- SAC Bio Datasets
- Soils, Statewide
- TPFL Data
- Vegetation Complexes, IBRA Bioregion
- WA Herbarium Data
- WA TEC/PEC Boundaries and Buffers