GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS
Area Permit Number: 8662/1
File Number: DWERVT3389
Duration of Permit: From 2 May 2020 to 2 May 2022

PERMIT HOLDER
Shire of West Arthur

LAND ON WHICH CLEARING IS TO BE DONE
Coalfields Road Reserve (PIN 11313926), Darkan
Railway Reserve (PIN 552019), Darkan

AUTHORISED ACTIVITY
The Permit Holder shall not clear more than 0.143 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8662/1.

CONDITIONS

1. **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.

2. **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.

3. **Records must be kept**
   The Permit Holder must maintain the following records for activities done pursuant to this Permit, 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 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 1 of this Permit; and
   (e) actions taken to minimise the risk of the introduction and spread of *dieback* and *weeds* in accordance with condition 2 of this Permit.

4. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 4 of this Permit, when requested by the *CEO*.

DEFINITIONS

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

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;

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

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;

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 Regional Weed Rankings 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

9 April 2020

Plan 8662/1

Legend

- CPS areas approved to clear
- Roads
- Local Government Authorities
- Cadastre

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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

1.1. Permit application details

Permit application No.: 8662/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Shire of West Arthur
Application received date: 29 August 2019

1.3. Property details

Property: Coalfields Road Reserve (PIN 11313926), Darkan
Railway Reserve (PIN 552019), Darkan
Local Government Authority: Shire of West Arthur
Localities: Darkan

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
0.143	0	Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 9 April 2020
Reasons for Decision: The clearing permit application 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 not likely to be at variance with any of the clearing principles.

Through assessment it was identified that the proposed clearing may impact on adjacent vegetation through the introduction of weeds and dieback. A weed and dieback management condition has been placed on the permit to mitigate any potential impacts.

In determining to grant a clearing permit subject to conditions, the Delegated Officer considered that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description: The application is for the proposed clearing of 0.143 hectares of native vegetation within Road Reserve (PIN 11313926) and Railway Reserve (PIN 552019), Darkin, for the purpose of constructing a new railway crossing (Figure 1).

Vegetation Description The vegetation within the application area is mapped as the Darkin 4 (Dk4) vegetation complex, which is described as woodland *of Eucalyptus wandoo-Allocasuarina huegeliana-Acacia acuminata* on slopes and woodland of *Eucalyptus rudis* on lower slopes in the arid zone (Mattiske and Havel, 1998).

A site inspection of the application area undertaken by the Department of Water and Environmental Regulation (DWER) environmental officers identified that the vegetation within the application area primarily comprises *Eucalyptus wandoo* over a mid-storey dominated by *Bossiaea aquifolium* (water bush) over weeds and non-native grasses (DWER, 2020). Specifically, the application area comprises five native mature trees, including four *Eucalyptus wandoo* and one *Eucalyptus marginata* subspecies *marginata* (jarrah; DWER, 2020). The understorey within the application area is dominated by weedy grasses, with sparse native understorey and grasses such as *Dianella* sp. A non-native pine and *Eucalyptus* species were also observed within the application area (DWER, 2020).

Vegetation Condition The vegetation condition of the application area was determined through a site inspection undertaken by DWER officers (DWER, 2020). The condition of the vegetation within the application area is in degraded (Keighery, 1994) condition, described as basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 2014).

Soil Type

The soil type within the application area is mapped as Darkan 4 subsystem, described as foot slopes with grey deep sandy duplex and moderately deep sandy gravels (DPIRD, 2019). A DWER site inspection of the application area noted that soils comprise gravelly sand with medium sized pebbles to the southeast of the application area (DWER, 2020). The pebbly texture was noted to be absent within the southwest of the application (DWER, 2020).

Comments

The local area is defined as a 10 kilometre radius measured from the perimeter of the application area.

Figure 1: The application area

Figure 2. Photograph looking to the north of the application area

Figure 3. Photograph looking to the northeast of the application area

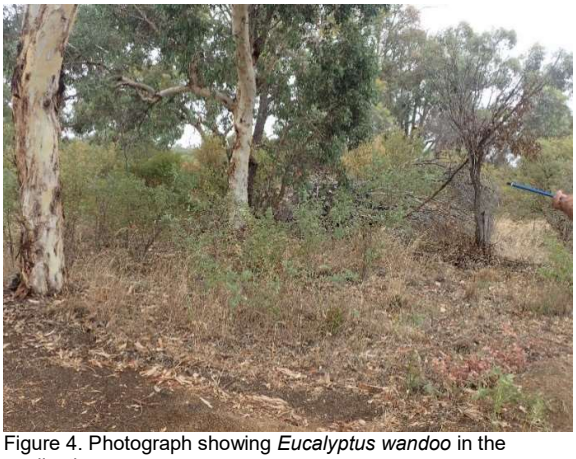

Figure 4. Photograph showing *Eucalyptus wandoo* in the application area

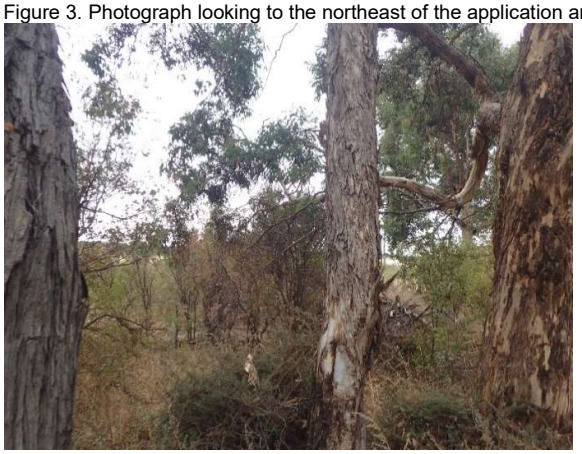

Figure 5. Photograph showing *Eucalyptus wandoo* (centre) with a small diameter at breast height in the application area

Figure 6. Photograph showing *Eucalyptus wandoo* in the application area

Figure 7. Photograph showing *Eucalyptus wandoo* and jarrah in the application area

Figure 8. Photograph showing the jarrah individual in the application area

Figure 9. Photograph showing a non-native *Eucalyptus* species within the application area

3. Avoidance and minimisation measures

The applicant initially submitted a clearing permit application to clear 0.16 hectares of native vegetation on 29 August 2019 (Shire of West Arthur, 2019a). Subsequent to this, the applicant reduced the application area to 0.085 hectares in August 2019 (Shire of West Arthur, 2019b). On 18 February 2020, the applicant advised an amendment to the application area, increasing the area to 0.15 hectares (Shire of West Arthur, 2020a).

A site inspection undertaken by DWER environmental officers observed a *Eucalyptus wandoo* along Coalfields Road and within the south-eastern corner of the application area comprising a decaying branch with a potential hollow, which appeared to be of a size suitable for black cockatoo nesting, however no signs of nesting were observed (DWER, 2020). During the inspection, the applicant advised the Shire of West Arthur's intention to retain this *Eucalyptus wandoo* individual (DWER, 2020). Subsequently, this *Eucalyptus wandoo* was removed from the application area footprint to enable retention of the tree, reducing the application area footprint to 0.143 hectares (Shire of West Arthur, 2020b).

4. Assessment of application against clearing principles and planning instruments and other matters

According to available databases, one threatened flora species (*Tribonanthes purpurea*) and five priority flora species have been recorded within the local area, comprising *Banksia acanthopoda* (Priority 2)*, Stylidium rhipidium* (Priority 3)*, Styphelia sp. Wandoo (F. & J. Hort 2441)* (Priority 2)*, Thysanotus cymosus* (Priority 2)*,* and *Xanthorrhoea brevistyla* (Priority 4) *(*Western Australian Herbarium, 1998-). No occurrences of these species have been recorded within the application area. Furthermore, *Stylidium rhipidium*, *Tribonanthes purpurea* and *Styphelia* sp. *Wandoo* (F. & J. Hort 2441) are typically associated with wet soils and creek flats, damp grey clay, swamps, and granite outcrops and rocks *(*Western Australian Herbarium, 1998-). These habitat characteristics are not represented within the application area (DWER, 2020). A DWER site inspection of the application area identified that the vegetation is in degraded (Keighery, 1994) condition, comprising a sparse native understorey dominated by weeds and non-native grasses (DWER, 2020). No threatened or priority flora were observed during the site inspection of the application area (DWER, 2020). Noting the above, the vegetation within the application area is not likely to represent suitable habitat for threatened or priority flora, and is not likely to comprise a high level of floristic diversity.

According to available databases, no Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) have been mapped within the application area. The nearest mapped conservation significant ecological community is located approximately 12 kilometres east of the application area, known as 'Eucalypt woodlands of the Western Australian Wheatbelt'. This ecological community is listed as a Priority 3 PEC by the Department of Biodiversity, Conservation and Attractions (DBCA) and recognised as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The approved conservation advice for the 'Eucalypt Woodlands of the Western Australian Wheatbelt' TEC, as prepared by the Threatened Species Scientific Committee (2015), details the geographical constraints of this ecological community, its floristic

composition and the condition and patch size thresholds necessary for a patch of remnant vegetation to be considered part of this ecological community.

A site inspection of the application area undertaken by DWER environmental officers identified that the vegetation within the application area primarily comprises *Eucalyptus wandoo* with a mid-storey dominated by *Bossiaea aquifolium* (water bush), over weeds and non-native grasses, and a sparse native understorey (DWER, 2020). Noting the vegetation types present, the degraded (Keighery, 1994) vegetation condition, the nearest mapped occurrence of the 'Eucalypt Woodlands of the Western Australian Wheatbelt' ecological community, and relatively small clearing area proposed, the vegetation within the application area is not likely to be representative of this TEC and the clearing proposed is not likely to significantly impact any conservation significant communities within the local area.

According to available databases, ten fauna species of conservation significance have been recorded within the local area, comprising four threatened fauna, two Priority 4 fauna, three migratory species protected under an international agreement and one species of special conservation interest (DBCA, 2007-). None of these records occur within the application area. Noting that three species protected under international agreement are marine and migratory species, the habitat associated with these species is not represented within the application area. Given the habitat requirements of these fauna, the degraded (Keighery, 1994) vegetation condition, and the absence of native understorey, the vegetation is not likely to comprise suitable or significant habitat for conservation significant fauna, with the exception of forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) and Carnaby's cockatoo (*Calyptorhynchus latirostris*), collectively known as black cockatoos, and red-tailed phascogale (*Phascogale calura*). One species, identified as *Calyptorhynchus* sp. (white-tailed black cockatoo) was recorded in the local area (DBCA, 2007-). It is noted that this may represent Carnaby's cockatoo or Baudin's cockatoo (*Calyptorhynchus baudinii*) records.

According to available databases, the vegetation within the application area is situated within an area mapped for Carnaby's cockatoo feeding habitat within the Jarrah Forrest Interim Biogeographic Regionalisation for Australia (IBRA) region. The nearest black cockatoo roost site is mapped approximately 560 metres from the application area (DBCA, 2007 -). Black cockatoos generally forage within 6 to 12 kilometres from their nesting sites (Commonwealth of Australia, 2012). A site inspection of the application area conducted by DWER environmental officers identified the vegetation in the application area predominantly comprised *Eucalyptus wandoo* woodland over a mid-storey dominated by *Bossiaea aquifolium* (water bush) over weedy grasses (DWER, 2020). Specifically, the application area comprises four *Eucalyptus wandoo* and one jarrah tree (*Eucalyptus marginata* subsp. *marginata*). One non-native *Eucalyptus* species and one non-native pine tree were also reported within the application area (DWER, 2020). This indicates that the vegetation within the application area may provide suitable breeding habitat for black cockatoos if appropriate hollows are present.

Black cockatoos breed in large hollow-bearing trees, generally within woodlands, forests or isolated trees (Commonwealth of Australia, 2012). These species nest in hollows in live or dead trees of karri, marri, wandoo, tuart, salmon gum, jarrah, flooded gum, York gum, powder bark, bullich and blackbutt (Commonwealth of Australia, 2012). Breeding habitat is described as trees of species known to support breeding within the range of black cockatoos, which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. Suitable DBH for nest hollows is 500 millimetres for most tree species, however is reduced to 300 millimetres for *Eucalyptus wandoo* and *Eucalyptus salmonophloia* (salmon gum; Commonwealth of Australia, 2012). The site inspection of the application area identified three *Eucalyptus wandoo* trees and one jarrah tree to be of a suitable DBH to be considered as habitat trees, however did not observe any visible hollows (DWER, 2020). Noting the above, the vegetation within the application area is not likely to comprise significant black cockatoo breeding habitat.

Black cockatoo species forage on a range of plant species, predominantly the seeds and flowers of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and proteaceous species such as *Banksia, Hakea* and *Grevillea* species (Commonwealth of Australia, 2012). In the absence of these species, black cockatoos have also been known to forage on the seeds of other various *Eucalyptus* species, however these are not considered to comprise a significant proportion of black cockatoo diet (Commonwealth of Australia, 2012). No evidence of black cockatoo foraging on native trees, by way of chewed jarrah and marri nuts, was identified during the DWER site inspection (DWER, 2020). Foraging on pine cones from one non-native pine tree within the application area was observed (DWER, 2020). Noting the flora species present within the application area and absence of preferred foraging species, the degraded (Keighery, 1994) vegetation condition, larger patches of native vegetation remnants in better condition within the local area (Hillman Nature Reserve), and the relatively small area of clearing proposed, the application area is not likely to comprise significant foraging habitat for black cockatoos.

The application area may provide suitable habitat for some conservation significant fauna species, however, noting the vegetation structure and composition, the absence of a native understorey and tree hollows (DWER, 2020), the degraded (Keighery, 1994) vegetation condition, the larger patches of remnant vegetation within the local area (Hillman Nature Reserve) and the relatively small clearing area of 0.143 hectares, the application area is not likely to comprise significant fauna habitat for conservation significant species, or provide a significant ecological linkage within the local area.

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 Jarrah Forest IBRA region retains approximately 38.6 per cent of its pre-European native vegetation extent (Government of Western Australia 2019a). The Darkin 4 vegetation complex mapped within the application area and the local area retain 14.9 per cent and 20.3 per cent of pre-European extents, respectively (Government of Western Australia 2019b). Noting the Darkin 4 and local area pre-European extents are below the 30 per cent thresholds, the vegetation within the application area is considered to occur within an area that has been extensively cleared.

The Darkin 4 vegetation complex is characterised as woodland of *Eucalyptus wandoo-Allocasuarina huegeliana-Acacia acuminata* on slopes and woodland of *Eucalyptus rudis* on lower slopes in the arid zone (Mattiske and Havel, 1998). The site inspection of the application area conducted by DWER environmental officers determined that the vegetation within the application area primarily comprises *Eucalyptus wandoo* over a mid-storey dominated by *Bossiaea aquifolium* (water bush) over a sparse native

understorey dominated by weeds and non-native grasses (DWER, 2020). Occurrences of *Allocasuarina huegeliana, Acacia acuminata* and *Eucalyptus rudis* were not reported within the application area (DWER, 2020). Given vegetation types present within the application area, the vegetation within the application area is not likely to represent the Darkin 4 vegetation complex. Given the above, the small extent of clearing proposed, the degraded (Keighery, 1994) vegetation condition, and the unlikely presence of conservation significant flora, fauna and ecological communities, the proposed clearing is not likely to comprise a significant remnant within an extensively cleared area.

Accordingly to available datasets, a geomorphic wetland (Darkan Duranillin) is mapped 0.15 kilometres south west and 0.25 kilometres north from the application area. Noting this, the DWER site inspection did not identify watercourses or flora species generally associated with watercourses within the application area (DWER, 2020). According to available datasets, the Darkan 4 soils mapped within the application area are prone to wind erosion and subsurface acidification, and have a low flood risk. Noting, the degraded (Keighery, 1994) condition and the small extent of clearing proposed, the proposed clearing is not likely to contribute to or cause appreciable land degradation, deteriorate the quality of ground water or surface water, or cause or exacerbate flooding.

Given the above, the proposed clearing is not likely to be at variance with any of the clearing principles.

The clearing permit application was advertised on the DWER's website on 12 November 2019, inviting submissions from the public within a 14 day period. No submissions were received in relation to this application. Subsequent to this, the applicant increased the application area footprint and the clearing permit application was readvertised on the DWER's website on 24 February 2020, inviting submissions from the public within a 7 day period. No submissions were received.

A majority of the application area overlaps with purpose permit CPS 5282/1, granted on 11 January 2013 and expired on 11 January 2018.

No Aboriginal Sites of Significance have been mapped within the application area. It is the applicant's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no unauthorised impacts to sites of Aboriginal significance occur through the clearing process.

5. 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 Primary Industries and Regional Development (DPIRD) (2019) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: https://maps.agric.wa.gov.au/nrm-info/ (accessed November 2019).

Department of Water and Environmental Regulation (DWER) (2020) Site Inspection Report, DWER Native Vegetation Regulation CPS 8662/1. (DWER reference: A1875897).

Government of Western Australia (2019a) 2018 Statewide Vegetation Statistics (formerly the CAR Reserve Analysis): Full Report. Remote Sensing and Spatial Analysis Program. Biodiversity and Conservation Science. Department of Biodiversity, Conservation and Attractions (DBCA). Published March 2019.

Government of Western Australia (2019b) 2018 South West Vegetation Complex Statistics Report. Remote Sensing and Spatial Analysis Program. Biodiversity and Conservation Science. Department of Biodiversity, Conservation and Attractions. Published March 2019.

Heddle, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.

Shire of West Arthur (2019a) Email correspondence - Shire of West Arthur clearing permit application form (CPS 8662/1). Received by DWER on 29 August 2019 (DWER reference: A1818944).

Shire of West Arthur (2019b) Email correspondence from applicant confirming a reduction in the application area to 0.085 hectares. Received by DWER on 3 September 2019 (DWER reference: A1820066).

Shire of West Arthur (2020a) Email correspondence from applicant confirming an increase in the application area to 0.15 hectares. Received by DWER on February 2020 (DWER reference: A1869062).

Shire of West Arthur (2020b) Email correspondence from applicant confirming the retention of a *Eucalyptus wandoo* within the application area, reducing the application area to 0.143 hectares. Received by DWER on 3 March 2020 (DWER reference: A1874716).

Threatened Species Scientific Committee (2015). *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act) Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt. Canberra: Department of the Environment. http://www.environment.gov.au/biodiversity/threatened/communities/pubs/128-conservation-advice.pdf (Accessed November 2019).

Western Australian Herbarium (1998-) FloraBase-the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. https://florabase.dpaw.wa.gov.au/ (accessed December 2019).

6. 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