



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 6789/1

File Number: 2011/006889-1

Duration of Permit: 5 May 2016 to 5 May 2018

PERMIT HOLDER

Shire of Quairading

LAND ON WHICH CLEARING IS TO BE DONE

Bulyee-Quairading Road reserve (PIN 11660153, PIN 11659467 and PIN 11660100), Wamenusking

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.5 hectares of native vegetation within the area hatched yellow on attached Plan 6789/1.

CONDITIONS

1. Application

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

2. Avoid, minimise etc clearing

In determining the amount and location 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.

3. Flora management

- (a) Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *botanist* to conduct a *targeted flora survey* of the Permit Area for the presence of *Acacia volubilis*.
- (b) Where *Acacia volubilis* is identified under condition 3(a) of this Permit, the Permit Holder shall engage a *botanist* to map the *critical habitat* of *Acacia volubilis* within the Permit Area and adjoining lands.
- (c) Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall provide a copy of the *botanist's targeted flora survey* report to the CEO.

- (d) If *Acacia volubilis* is identified within the Permit Area, the *targeted flora survey* report must include the following:
- (i) the location of each *Acacia volubilis*, either as the location of individual plants, or where this is not practical, the areal extent of the population and an estimate of the number of plants, 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; and
 - (ii) the methodology used to survey the Permit Area and surrounding lands to establish the *critical habitat* of *Acacia volubilis*; and
 - (iii) the extent of the *critical habitat* of *Acacia volubilis* shown on a map; and
 - (iv) a site description of the *critical habitat* of *Acacia volubilis* found.
- (e) Where *Acacia volubilis* is identified under condition 3(a) of this Permit, the Permit Holder shall ensure that no clearing of *Acacia volubilis* individuals or of the *critical habitat* of *Acacia volubilis* occurs, unless first approved by the CEO.

Definitions

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

botanist: means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 2 years work experience in identification and surveys of flora native to the bioregion being inspected or surveyed, or who is approved by the CEO as a suitable botanist for the bioregion;

critical habitat: means any part of the Permit Area comprising of the habitat of flora or fauna species and its population, that is critical for the health and long term survival of the flora or fauna species and its population;

targeted flora survey: means a field-based investigation, including a review of established literature, of the biodiversity of flora and vegetation of the Permit Area, focusing on habitat suitable for flora species that are being targeted and carried out during the optimal time to identify those species. Where target flora are identified in the Permit Area, the survey should also include sufficient surrounding areas to place the Permit Area into local context;



Kelly Faulkner
EXECUTIVE DIRECTOR
LICENSING AND APPROVALS
DEPARTMENT OF ENVIRONMENT REGULATION

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

18 April 2016



1. Application details

1.1. Permit application details

Permit application No.: 6789/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Shire of Quairading

1.3. Property details

Property: ROAD RESERVE - 11660153, WAMENUSKING
ROAD RESERVE - 11659467, WAMENUSKING
ROAD RESERVE - 11660100, WAMENUSKING
Colloquial name: Bulyee-Quairading Road
Local Government Authority: QUAIRADING, SHIRE OF
DER Region: Greater Swan
DPaW District: CENTRAL WHEATBELT
LCDC: QUAIRADING
Localities: WAMENUSKING and SOUTH QUAIRADING

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.5		Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 18 April 2016

Reasons for Decision: The applicant applied to clear 1.8 hectares reduced to 0.5 hectares, within a 6.22 hectare footprint (application area).

The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has been concluded that the proposed clearing may be at variance with Principles (a), (c) and (e), is not likely to be at variance with Principles (b), (d), (f), (g), (i) and (j), and is not at variance with Principle (h).

An assessment has determined that the proposed clearing may impact on rare flora as there is a reasonable probability that one rare flora species *Acacia volubilis* (critically endangered) may occur within the area under application, and may impact a significant remnant within an extensively cleared area.

The Delegated Officer considered that a targeted flora survey is required to confirm whether *Acacia volubilis* occurs within the application area, and that no clearing of this species or of its critical habitat may occur without prior approval of the CEO. If this species is recorded within the application area, the proponent will require a permit to take rare flora under section 23F of the *Wildlife Conservation Act 1950* from the Department of Parks and Wildlife.

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation association 1023 is described as medium woodland; York gum, wandoo & salmon gum (<i>Eucalyptus salmonophloia</i>) (Shepherd et al, 2001).	The application is for the clearing of 0.5 hectares of native vegetation within Bulyee-Quairading Road reserve (PIN 11660153, PIN 11659467 and PIN 11660100) Wamenusking, for the purpose of road widening.	Completely Degraded; No longer intact, completely/almost completely without native species (Keighery, 1994). To Degraded; Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).	The condition and structure of the vegetation under application was determined from a site inspection undertaken by the Department of Environment Regulation on 14 October 2015 (DER, 2015).

3. Assessment of application against clearing principles

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

Comments

Proposed clearing may be at variance to this Principle

The proposed clearing consists of 0.5 hectares within Bulyee-Quairading Road reserve (PIN 11660153, PIN 11659467 and PIN 11660100) Wamenusking, for the purpose of road widening. The applicant has advised that there are three stages of the project for the proposed road widening. Stage 1 is related to the current clearing permit application, stage 2 is proposed to proceed in 2016 and stage 3 in 2017 (DER, 2015). The applicant advised that the proposed clearing will only extend up to where the table drain is, and that the Shire proposes to retain any large wandoo trees that are along the fence line (DER, 2015).

The vegetation proposed for clearing ranges from a completely degraded to degraded (Keighery, 1994) condition, with the majority of vegetation being of a degraded (Keighery, 1994) condition. The vegetation consisted of an overstorey of wandoo and an understorey showing significant signs of disturbance comprised predominately of weeds (DER, 2015). Some areas within the application area had *Acacia* and *Casuarina* shrub species scattered throughout the mid-storey (DER, 2015).

A priority 4 species, *Daviesia oxylebium*, has been recorded within the application area. This species has been recorded five times within the local area (10 kilometre radius). Priority 4 species are considered to have been adequately surveyed and not in need of special protection but could be if circumstances change (Parks and Wildlife, 2014).

The closest record of rare flora is mapped 2.7 kilometres east of the proposed clearing area. This species may occur within the application area given the preferred habitat for this species is within extremely degraded road reserves with little native vegetation (Brown et al, 1998).

There are no priority or threatened ecological communities mapped within the local area (10 kilometre radius).

The vegetation under application may provide suitable habitat for the rainbow bee-eater (*Merops ornatus*) and carpet python (*Morelia spilota* subsp. *imbricata*). However, the proposed clearing is not likely to significantly impact upon the conservation status of these species given the relatively small, long and linear nature of the application area, and the Shire's commitment to clear only up to the table drain as well as retaining the large wandoo trees that occur along the fence line.

Although the application area is in a degraded to completely degraded (Keighery, 1994) condition it contains priority flora and may contain rare flora and therefore the proposed clearing may be at variance to this Principle.

Methodology

References:

- Brown et al (1998)
- DER (2015)
- Keighery (1994)
- Parks and Wildlife (2014)

GIS Databases:

- Current Extent of Native Vegetation
- SAC Bio Datasets (Accessed December 2015)
- Parks and Wildlife Tenure

(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 indigenous to Western Australia.

Comments

Proposed clearing is not likely to be at variance to this Principle

A search of the Naturemap database (Parks and Wildlife, 2007-) returned no records of conservation significant fauna species within a 10 kilometre radius of the application area. However, three fauna species of conservation significance were recorded within a 20 kilometre radius, namely the shield-backed trapdoor spider (*Idiosoma nigrum*), rainbow bee-eater (*Merops ornatus*) and carpet python (*Morelia spilota* subsp. *imbricata*).

The application area falls within a highly cleared landscape with five per cent of native vegetation remaining in the local area (10 kilometre radius). The vegetation under application may act as a fauna corridor that facilitates the movement of fauna within, and across the landscape. However, the Shire has committed to retaining the large wandoo trees along the fence line, which will mitigate the impacts of the proposed clearing on this fauna corridor.

Shield-backed trapdoor spider is listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (WC Act). The shield-backed trapdoor spider Conservation Plan 2008 - 2013 (Avon Catchment Council, 2007) defines critical habitat for this species as open York gum (*Eucalyptus loxophleba*), salmon gum (*E. salmonophloia*) and wheatbelt wandoo (*E. capillosa*) woodland, where jam (*Acacia acuminata*) trees forms a sparse understorey in heavy clay soils. A site inspection of the area determined the presence of wandoo vegetation present within the application area (DER, 2015). However, this species requires a permanent layer of leaf litter for foraging which was not observed during the site inspection by DER (2015). Given the lack of leaf litter and differing soil types under application, it is not likely the proposed clearing will impact on the shield-

backed trapdoor spider (Avon Catchment Council, 2007).

The rainbow bee-eater is listed as protected under international agreement under the WC Act. This species occurs in numerous habitats including open forests and woodlands, shrublands, in cleared or semi-cleared habitats such as areas of human habitation and farmland. It prefers open, cleared or lightly-timbered areas that are often, but not always in close proximity to permanent water (Department of the Environment, 2015). Suitable habitat for this species is likely to occur within the application area. However, the proposed clearing is unlikely to significantly impact upon the conservation status of this species given its highly mobile nature and the long and linear nature of the application area.

The carpet python is listed as specially protected fauna under the WC Act. This species has been recorded in semi-arid coastal and inland habitats consisting of Banksia woodland, eucalypt woodlands and grasslands (Parks and Wildlife, 2012). The vegetation proposed for clearing consists of Eucalyptus wandoo woodland, therefore, suitable habitat may occur within the application area. However, the area under application is not likely to contain significant habitat for this species given the degraded (Keighery, 1994) condition of the vegetation and lack of suitable shelter i.e. rock crevices and log hollows (Parks and Wildlife, 2012)

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

Methodology References:
- Avon Catchment Council (2007)
- DER (2015)
- Department of the Environment (2015)
- Keighery (1994)
- Parks and Wildlife (2012)

GIS Databases:
- SAC Bio Datasets (Accessed December 2015)

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

Comments Proposed clearing may be at variance to this Principle

Four species of rare flora have been recorded within the local area (10 kilometre radius). Suitable habitat for one critically endangered species may be present within the application area. This species has been located approximately 2.7 kilometres east from the application area and its preferred habitat is within extremely degraded road reserves with little native vegetation where gravelly sands or sandy clay soils occur (Brown et al, 1998; Western Australian Herbarium, 1998-). The soil type within the application area has been mapped by Northcote et al (1960-68) as hard alkaline yellow mottled soils and hard alkaline red soils. However, a site inspection undertaken by DER (2015) identified sandy soils in parts of the application area which is consistent with the preferable soil type for this species. Given this, suitable habitat may occur within the application area given the species shares the same vegetation and soil type and the completely degraded to degraded (Keighery, 1994) condition of the vegetation under application. A targeted flora survey would confirm the occurrence of this rare flora species within the application area, and the impact the proposed clearing may have on the conservation status of the species.

If rare flora is recorded within the application area, the proponent will require a permit to take rare flora under section 23F of the *Wildlife Conservation Act 1950* (WC Act) from the Department of Parks and Wildlife.

Given the above, the proposed clearing may be at variance to this Principle.

Methodology References:
- Brown et al (1998)
- Keighery (1994)

GIS Databases:
- SAC Bio Datasets (Accessed December 2015)

(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.

Comments Proposed clearing is not likely to be at variance to this Principle

There are no threatened ecological communities mapped within the local area (10 kilometre radius), therefore the proposed clearing is not likely to comprise the whole or part of, or be necessary for the maintenance of a threatened ecological community.

Therefore, the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Databases:
-SAC Bio Datasets (Accessed December 2015)

(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.

Comments Proposed clearing may be at variance to this Principle

Aerial imagery indicates the local area (10 kilometre radius) is approximately five per cent vegetated. 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 Avon wheatbelt, Shire of Quairading and mapped Beard vegetation association 1023 retain approximately 19, 9 and 11 per cent of their pre-European vegetation extents respectively (Government of Western Australia, 2014).

Given the significantly low vegetation representations locally and regionally, and that the application area may contain rare flora, the application area may represent a significant remnant of vegetation in an extensively cleared landscape.

Therefore, the proposed clearing may be at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion* Avon Wheatbelt	9,517,110	1,765,881	19	10
Shire* Shire of Quairading	201,651	18,905	9	8
Beard Vegetation Association in Bioregion* 1023	1,522,676	166,276	11	10

Methodology References:
 - Commonwealth of Australia (2001)
 - *Government of Western Australia (2014)

GIS Datasets:
 - Pre-European Vegetation
 - NLWRA, Current Extent of Native Vegetation

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

Comments Proposed clearing is not likely to be at variance to this Principle

A minor non-perennial watercourse is mapped as intersecting the northern portion of the application area. No native vegetation growing in association with this mapped watercourse was observed within the application area during a site inspection undertaken by DER (2015).

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

Methodology References:
 -DER (2015)

GIS Databases:
 -Hydrography, Linear
 -Hydrography, Hierarchy
 -Geomorphic Wetlands

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

Comments Proposed clearing is not likely to be at variance to this Principle

The mapped soil type in the application area consists of gently undulating to rolling terrain with some ridges and uneven slopes; and with the variable presence of lateritic mesas and buttes and granitic tors and bosses. Chief soils are hard alkaline yellow mottled soils and hard alkaline red soils (Northcote et al, 1960-68).

Given the relatively small size and linear nature of the area under application, it is unlikely that wind erosion post clearing will lead to appreciable land degradation.

Groundwater is highly saline, mapped at 14000-35000 total dissolved solids (milligrams per litre). Given the long and linear nature of the proposed clearing, it is not likely to contribute to the rise of groundwater causing land degradation due to increased salinity at the surface.

Increased water erosion due to the proposed clearing is likely to be minimal given that the one watercourse intersected is minor and non-perennial, annual local rainfall is low (400 millimetres) and the vegetation proposed to be cleared is in a completely degraded to degraded (Keighery, 1994) condition (DER, 2015).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
- DER (2015)
- Keighery (1994)
- Northcote, et al (1960-68)

GIS Datasets:
- Groundwater Salinity Statewide
- Hydrography linear
- Rainfall, Mean Annual

(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.

Comments **Proposed clearing is not at variance to this Principle**
The closest conservation reserve, Wamenusking Nature Reserve (Class A), is located 2.9 kilometres east of the application area. Given the distance to this reserve from the application area, the proposed clearing will not impact upon the environmental values of this reserve.

Therefore the proposed clearing is not at variance to this Principle.

Methodology GIS Databases:
- Parks and Wildlife tenure

(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.

Comments **Proposed clearing is not likely to be at variance to this Principle**
A small portion of the application area intersects a non-perennial watercourse within Bulyee-Quairading Road reserve. Given this, the proposed clearing may impact upon surface water quality, however impacts are likely to be short term and minimal given the relatively small extent of vegetation to be cleared.

Ground water salinity within the application area has been mapped as highly saline at 14000-35000 total dissolved solids (milligrams per litre). The proposed clearing is not expected to significantly change salinity levels given its relatively small scale of the proposed clearing and the condition of the vegetation.

Therefore, the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Datasets:
- Groundwater Salinity Statewide
- Hydrography linear
- Topographic contours

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

Comments **Proposed clearing is not likely to be at variance to this Principle**
The proposed clearing is not expected to cause flooding given the relatively small scale and linear nature of the application area.

Therefore the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Databases:
-Hydrography, Linear
-Hydrography, Hierarchy

Planning instruments and other relevant matters.

Comments The application area is located within the Avon River Surface Water Area, proclaimed under the *Rights in Water and Irrigation Act 1914*, where there may be a requirement to obtain a permit to interfere with the bed and banks of a watercourse. The Department of Water were consulted during assessment of this application and returned the referral as 'Assessed – No comments' (A1004597). The proponent is advised to liaise with the Department of Water to determine if approvals are required.

No registered Aboriginal Sites of Significance occur within the application area.

The clearing permit application was advertised on 19 October 2015 by the Department of Environment Regulation inviting submissions from the public. No public submissions were received.

The extent of proposed clearing was reduced from 1.8 hectares to 0.5 hectares within the 6.22 hectare application area. The applicant has committed to avoiding and minimising the environmental impacts of the proposed clearing through the retention of large trees along fence lines. The applicant has agreed to undertake a targeted flora survey to determine if rare flora occurs within the application area (A1075516).

Methodology GIS Databases:
- Aboriginal Sites Register
- RIWI Surface Water Areas




4. References

- Avon Catchment Council (2007) Shield-backed Trapdoor Spider (*Idiosoma nigrum*) Conservation Plan. Avon Catchment Council, Western Australia.
- Brown A., Thomson-Dans C. and Marchant N. (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Department of Environment Regulation (2015) Site Inspection Report for CPS 6789/1. Department of Environment Regulation. Western Australia. (A1014438).
- Department of Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed 24/12/2015
- Department of Parks and Wildlife (2012) Carpet Python *Morelia spilota* (Lacepede, 1804). Department of Environment and Conservation, Perth, Western Australia.
- Department of Parks and Wildlife (2014) Threatened and Priority Flora List for Western Australia. WA Department of Environment and Conservation, Perth.
- Department of the Environment (2015) *Merops ornatus* in Species Profile and Threats Database, Department of the Environment, Canberra.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. 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.
- Northcote, K. H. with Beckmann G.G., Bettenay E., Churchward H.M., van Dijk D.C., Dimmock G.M., Hubble G.D., Isbell R.F., McArthur W.M., Murtha G.G., Nicolls K.D., Paton T.R., Thompson C.H., Webb A.A. and Wright M.J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- 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.

Plan 6789/1




Legend

-  Clearing Instruments Conditions
-  Areas approved to clear
-  Clearing Instruments Proposal



1:10,000

MGA 94
Geocentric Datum of Australia 1994

 Date 18/4/16
Kelly Faulkner

Officer with delegated authority under Section 20
of the Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA