GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6338/1
Permit Holder:	Shire of Plantagenet
Duration of Permit:	30 January 2015 – 30 January 2020

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 of road widening and maintenance.

2. **Land on which clearing is to be done**
   Rocky Gully-Frankland Road reserve (PIN 11630954, PIN 11632085, PIN 11632086, PIN 11632090, PIN 11642747, PIN 11679489, PIN 11642745 and PIN 11642746) (Rocky Gully 6397)
   Mill Road reserve (PIN 11641269 and PIN 11641267) (Mount Barker 6324)

3. **Area of Clearing**
   The Permit Holder must not clear more than 3.576 hectares of native vegetation within the combined areas shaded yellow on attached Plan 6338/1a and Plan 6338/1b.

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 etc 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 *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.

DEFINITIONS
The following meanings are given to terms used in this Permit:
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 Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

M Warnock
SENIOR MANAGER
CLEARING REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

31 December 2014

Plan 6338/1a

LEGEND

- Road Centrelines
- Cadastre for labelling
- Local Government Authorities

Clearing Instruments

- Areas Approved to Clear

Deep River 50cm Orthomosaic - Landgate 2007

Frankland 50cm Orthomosaic - Landgate 2006

Denmark 50cm Orthomosaic - Landgate 2007

N

0 1 km

Scale 1:39999
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Date 31/12/14

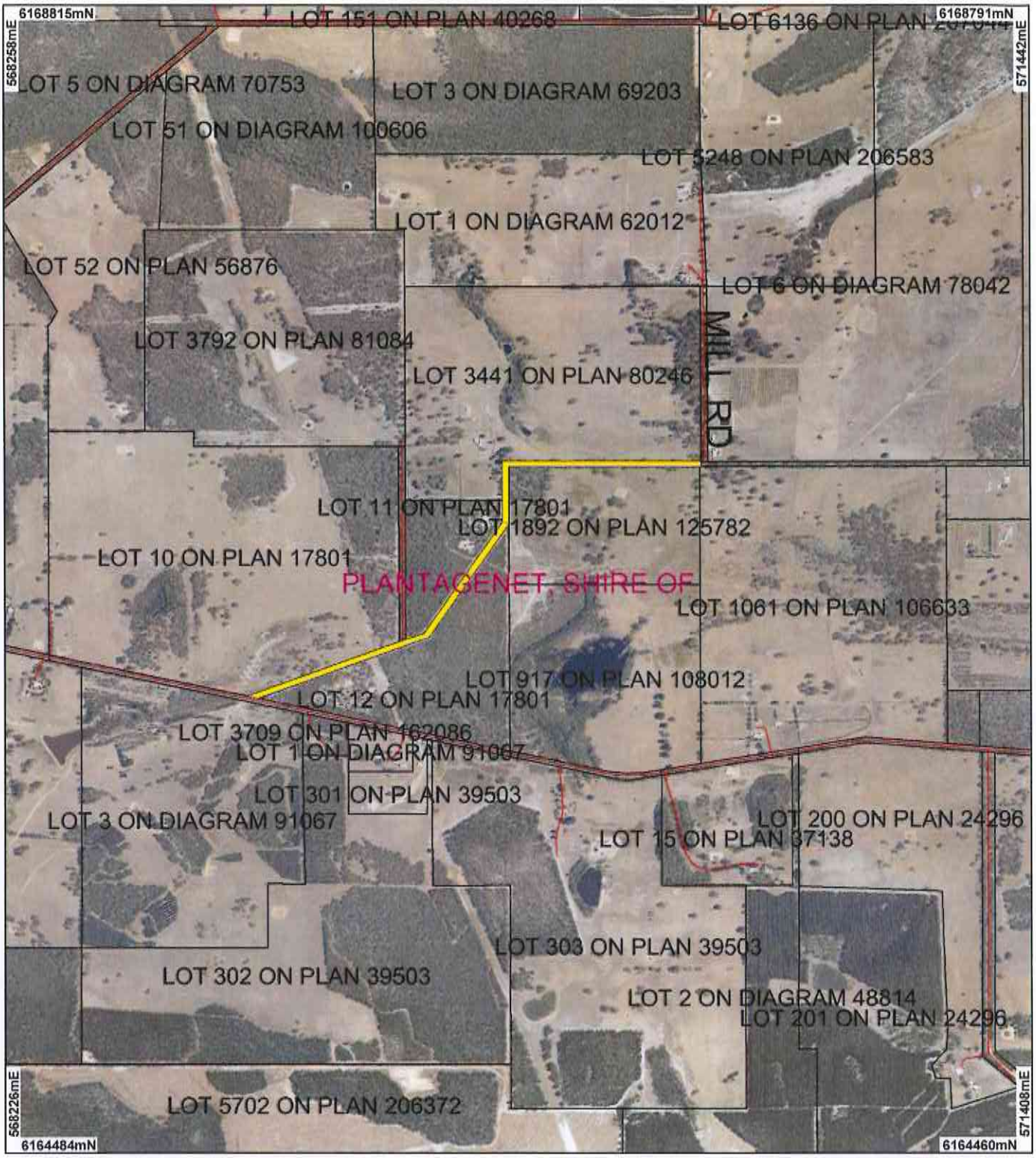
M Warnock

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

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Government of Western Australia
Department of Environment Regulation

Plan 6338/1b



LEGEND

- Road Centrelines
- Cadastre for labelling
- Local Government Authorities

Clearing Instruments

- Areas Approved to Clear

Mount Barker 50cm Orthomosaic - Landgate 2007

N

0 ~500 m

Scale 1:19000

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Date 31/12/14

M Warnock

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

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Government of Western Australia
Department of Environment Regulation

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

Government of Western Australia
Department of Environment Regulation

1. Application details

1.1. Permit application details

Permit application No.:	6338/1
Permit type:	Purpose Permit

1.2. Proponent details

Proponent's name:	**Shire of Plantagenet**

1.3. Property details

Property:	ROAD RESERVE (ROCKY GULLY 6397) ROAD RESERVE (MOUNT BARKER 6324)
Local Government Area:	Shire of Plantagenet
Colloquial name:	Frankland Rocky Gully Road and Mills Road

1.4. Application

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

1.5. Decision on application

Decision on Permit Application:	Grant
Decision Date:	31 December 2014

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
Frankland Gully Road reserve: Mapped Beard vegetation association 3 is described as medium forest; jarrah-marri (Shepherd et al 2001). Mattiske vegetation complex FH5 is described as: Mosaic of low open woodland of Melaleuca cuticularis, tall shrubland of Melaleuca densa with occasional Eucalyptus rudis on valley floors in humid to semiarid zones (Mattiske and Havel 1998). Mattiske vegetation complex Mm is described as: Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Banksia grandis on undulating low rises in subhumid and semiarid zones (Mattiske and Havel 1998). Mattiske vegetation complex FH2 is described as: Woodland of Eucalyptus wandoo-Corymbia calophylla with some Eucalyptus marginata subsp. marginata on slopes of low undulating hills in subhumid and semiarid zones (Mattiske and Havel 1998). Mattiske vegetation complex BEy2 is described as: Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Banksia grandis on undulating uplands in humid and subhumid zones (Mattiske and Havel 1998).	The clearing of 3.576 hectares of native vegetation within Rocky Gully-Frankland Road reserve, Rocky Gully and Mill Road reserve, Mount Barker is for the purpose of road widening and maintenance.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The description and condition of the vegetation under application was determined from Flora and Habitat Surveys provided by the applicant and aerial imagery. The majority of the area under application within Frankland-Rocky Gully Road reserve is in a very good (Keighery 1994) condition and is described as a forest of Eucalyptus marginata and Corymbia calophylla (Wilson Inlet Catchment Committee Inc 2013). The area under application within Mills Road reserve contains two distinct vegetation types, the first section consists of forest of Eucalyptus marginata and Corymbia calophylla (Wilson Inlet Catchment Committee Inc 2012). The second section has significantly less understorey and has been described as forest of Eucalyptus cornuta and Corymbia calophylla (Wilson Inlet Catchment Committee Inc 2012). The condition of the vegetation is predominantly excellent (Keighery 1994) in section one and degraded (Keighery 1994) in section two (Wilson Inlet Catchment Committee Inc 2012).

Mills Road reserve:

Mapped Beard vegetation association 3 is described as medium forest; jarrah-marri (Shepherd et al 2001).

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The clearing of 3.576 hectares of native vegetation within Rocky Gully-Frankland Road reserve, Rocky Gully and Mill Road reserve, Mount Barker is for the purpose of road widening and maintenance. The applicant proposes to clear native vegetation within two metres either side of the area under application.

The majority of the area under application within Frankland-Rocky Gully Road reserve is in a very good (Keighery 1994) condition and is described as a forest of Eucalyptus marginata and Corymbia calophylla (Wilson Inlet Catchment Committee Inc 2013).

The area under application within Mills Road reserve consists of a forest of Eucalyptus marginata and Corymbia calophylla and a forest of Eucalyptus cornuta and Corymbia calophylla (Wilson Inlet Catchment Committee Inc 2012).The condition of the vegetation is predominantly excellent (Keighery 1994) in section one and degraded (Keighery 1994) in the second section (Wilson Inlet Catchment Committee Inc 2012).

Numerous rare and priority flora species have been recorded within the local area (10 kilometres radius) of the areas under application. Suitable habitat for rare and priority flora species may occur within the area under application however flora and fauna surveys undertaken within the area under application within Mills Road reserve in January 2012 and Rocky Gully – Frankland Road reserve in September 2012 did not identify any rare or priority flora species (Wilson Inlet Catchment Committee Inc 2013 and Wilson Inlet Catchment Committee Inc 2012).

Numerous fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius) being: Forest Red-tailed Black-Cockatoo (Calyptorhynchus banksii subsp. naso), Baudin's Cockatoo (Calyptorhynchus baudinii) Carnaby's Cockatoo (Calyptorhynchus latirostris), Chuditch (Dasyurus geoffroii), Brushed-tailed phascogale (Phascogale tapoatafa subsp. tapoatafa), Western Ringtail Possum (Pseudocheirus occidentalis), Western Archaeid Spider (Zephyrarchaea mainae), Bilby (Macrotis lagotis) and Numbat (Myrmecobius fasciatus) (DEC 2007-).

A flora and fauna survey undertaken within the areas under application identified a number of trees with small hollows or the potential to develop hollows. The hollows identified are not suitable for breeding by the black cockatoo species and no evidence of any of the hollows being used by the brush tailed phascogale was identified (Wilson Inlet Catchment Committee Inc 2013 and Wilson Inlet Catchment Committee Inc 2012). The area under application may provide habitat for ground dwelling fauna, however given the long linear nature of the application areas the vegetation proposed to be cleared is not considered significant habitat for these species in the local context.

The areas under application may contribute to a biological corridor facilitating fauna movement across the landscape. However remnant vegetation located adjacent to and within close vicinity of the application areas will maintain a linkage for fauna between larger remnants and no significant impact to fauna movement across the landscape is expected.

The clearing proposed may indirectly impact adjacent remnant vegetation through the spread of weeds and dieback. Weed and dieback management practices will help mitigate this risk.

The areas under application contain vegetation in a very good to excellent (Keighery 1994) condition, however given the long linear nature of the proposed clearing areas and that no conservation significant flora or habitat for fauna has been identified within the application areas the area under application is not considered to comprise a high biological diversity.

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

Methodology

References:
- DEC (2007-)
- Keighery (1994)
- Wilson Inlet Catchment Committee Inc (2012)
- Wilson Inlet Catchment Committee Inc (2013)

GIS Database:
- SAC Bio Datasets - accessed November 2014

(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

Proposal is not likely to be at variance to this Principle

Numerous fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 (WC Act) have been recorded within the local area (10 kilometre radius) of the areas under application being: Forest Red-tailed Black-Cockatoo (Calyptorhynchus banksii subsp. naso), Baudin's Cockatoo (Calyptorhynchus baudinii) Carnaby's Cockatoo (Calyptorhynchus latirostris), Chuditch (Dasyurus geoffroii), Brushed-tailed phascogale (Phascogale tapoatafa subsp. tapoatafa), Western Ringtail Possum (Pseudocheirus occidentalis), Western Archaeid Spider (Zephyrarchaea mainae), Bilby (Macrotis lagotis) and Numbat (Myrmecobius fasciatus) (DEC 2007-).

Carnaby's cockatoo is listed as endangered under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and rare or likely to become extinct under the WC Act. Carnaby's cockatoo nest in large hollows of eucalyptus trees and forages on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (Banksia, Hakea, Grevillea), as well as Allocasuarina and Eucalyptus species, Corymbia calophylla and a range of introduced species, especially seeds from cones of Pinus species (Shah, 2006). The Baudin's Cockatoo and Forest Red-tailed Black- Cockatoo are listed as vulnerable under the EPBC Act and are also known to breed large hollows in tall eucalypts (Department of the Environment 2014a and 2014b).

A flora and fauna survey undertaken within Frankland-Rocky Gully road reserve determined that the majority of the trees within the application were not mature and did not contain hollows. Two trees containing small hollows were identified within the application area however were not likely to be suitable for breeding by the black cockatoo species (Wilson Inlet Catchment Committee Inc 2013).

A flora and fauna survey undertaken determined that the majority of the trees within Mills Road reserve were not mature and did not contain hollows suitable for breeding by the black cockatoo species. Four mature trees were identified within the application area, containing either small hollows or having the potential to develop hollows. The hollows identified were not suitable for breeding by the black cockatoo species (Wilson Inlet Catchment Committee Inc 2012).

The vegetation within the areas under application may provide foraging habitat for the black cockatoo species, however given the long linear nature of the areas under application the clearing of 3.576 hectares over two road reserves is not likely to have a significant impact on foraging habitat for these species.

The Brush-tailed phascogale occurs in dry sclerophyll forests and open woodlands that contain hollow-bearing trees. The small hollows identified within the areas under application may provide habitat for the Brush-tailed phascogale. However the flora and fauna surveys undertaken within the areas under application did not identify evidence of the hollows being utilised (Wilson Inlet Catchment Committee Inc 2013 and Wilson Inlet Catchment Committee Inc 2012).

The Western Ringtail Possum is listed as endangered under the EPBC Act and rare or likely to become extinct under the WC Act. This species has a preference for near coastal Agonis flexuosa forest and Eucalyptus gomphocephala dominated forest with an Agonis flexuosa understorey (Department of the Environment 2014c). The Western Ringtail Possum is usually associated with stands of myrtaceous trees growing near swamps, water courses or floodplains (Department of the Environment 2014c). Suitable habitat for this species is not located within the area under application.

The Western Archaeid Spider lives in deep litter in thickets of dwarf peppermint trees (Agonis flexuosa) (CALM 2004). Suitable habitat for this species is not located within the area under application.

The area under application may provide habitat for ground dwelling fauna, however given the long linear nature of the areas under application the vegetation proposed to be cleared is not likely to contain significant fauna habitat.

The areas under application may contribute to a biological corridor facilitating fauna movement across the landscape. However remnant vegetation located adjacent to and within close vicinity of the application will provide a linkage for fauna between larger remnants and no significant impact to fauna movement across the landscape is expected.

Given the above, the areas under application are not likely to contain significant habitat for fauna.

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

Methodology

References:

- CALM (2014)
- DEC (2007-)
- Department of the Environment (2014c)
- Department of Environment (2014a)
- Department of Environment (2014b)

- Shah (2006)
- Wilson Inlet Catchment Committee Inc (2012)
- Wilson Inlet Catchment Committee Inc (2013)

GIS Databases:
- SAC Biodata sets - accessed November 2014

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

Comments

Proposal is not likely to be at variance to this Principle

Numerous rare flora species have been recorded within the local area (10 kilometre radius).

A flora and fauna habitat survey undertaken within the area under application within Mills Road reserve in January 2012 and Rocky Gully - Frankland Road reserve in September 2012 did not identify any rare flora species (Wilson Inlet Catchment Committee Inc 2013 and Wilson Inlet Catchment Committee Inc 2012).

Therefore the areas under application are not likely to contain rare flora.

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

Methodology

References:
-Wilson Inlet Catchment Committee Inc (2012)
-Wilson Inlet Catchment Committee Inc (2013)

GIS Databases:
- SAC Biodata sets - accessed November 2014

(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

Proposal is not likely to be at variance to this Principle

No threatened ecological communities (TEC) have been recorded within 10 kilometres of the areas under application. A flora and habitat survey of the areas under application did not identify any threatened ecological communities (Wilson Inlet Catchment Committee Inc 2013 and Wilson Inlet Catchment Committee Inc 2012).

Therefore the vegetation proposed to be cleared is not likely to comprise or be necessary for the maintenance of a threatened ecological community.

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

Methodology

References:
-Wilson Inlet Catchment Committee Inc (2012)
-Wilson Inlet Catchment Committee Inc (2013)

GIS Databases:
- SAC Biodata sets - accessed November 2014

(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

Proposal is not likely to be at variance to this Principle

The areas under application are located within the Jarrah Forest Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 55 per cent of its Pre European vegetation extent remaining (Government of Western Australia 2013).

The vegetation under application is mapped as Beard Vegetation Association 3 and Mattiske Vegetation Complexes FH5, FH2, Bey2 and Mm, which have approximately 68, 59, 41, 34 and 24 per cent of their Pre-European extent remaining respectively within the Jarrah Forest bioregion (Government of Western Australia 2013 and Mattiske and Havel 1998).

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).

Digital imagery indicates that the local area (10 kilometre radius) surrounding the areas under application retains approximately 20 per cent vegetation cover and therefore the vegetation proposed to be cleared may be considered to be located within an extensively cleared area. In addition Mattiske vegetation complex Mm retains less than the recommended 30 per cent threshold.

However, given the area under application is contained within a narrow, linear road reserve, does not contain rare or priority flora, or significant fauna habitat, the vegetation under application is not likely to represent a significant remnant.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Jarrah Forest	4,506,660	2,457,731	55	68
Shire*				
Shire of Plantagenet	487,971	229,463	47	63
Beard Vegetation Association in Bioregion*				
3	2,390,591	1,629,894	68	80
Mattiske Vegetation Complex **				
FH5	21,444	12,611	59	17
FH2	46,921	19,440	41	19
Bey2	78,309	26,812	34	14
Mm	7,141	1,733	24	1

* Government of Western Australia (2013)
** Mattiske and Havel (1998)

Methodology

References:
- Commonwealth of Australia (2001)
- Government of Western Australia (2013)
- Mattiske and Havel (1998)

GIS Databases:
- Local Government Authorities - Landgate
- Pre-European Vegetation
- Mattiske vegetation complex

(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

Proposal is at variance to this Principle

Two minor watercourses intersect the area under application area within Rocky Gully – Frankland Road reserve. One minor watercourse intersects Mills road reserve.

Given the above the vegetation proposed to be cleared is considered to be growing in association with a watercourse. However, given the small intersect within three minor watercourses, the clearing as proposed is not likely to have a significant impact on the environmental values of these watercourses.

The clearing as proposed is at variance to this principle.

Methodology

GIS Databases:
- Hydrology, linear

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

Comments

Proposal is not likely to be at variance to this Principle

The areas under application are mapped as soils type Tf6 which is described as: Undulating to hilly portions of dissected lateritic plateau at moderate elevation: chief soils are hard acidic and neutral yellow mottled soils containing small to large amounts of ironstone gravels (Northcote et al 1960 - 1968).

The clearing of 3.576 hectares of native vegetation over approximately seven kilometres of two road reserves is not likely to cause appreciable land degradation.

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

Methodology References
- Northcote et al (1960-68)

GIS Databases:
- Soils, statewide

(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 **Proposal is not likely to be at variance to this Principle**
Tootanellup Nature Reserve is located approximately eight kilometres east of the area under application within Rocky Gully - Frankland Road reserve.

A Conservation Commission nature reserve is located approximately 4.5 kilometres west of the area under application within Mills Road reserve.

Given the distance to the closest nature reserve the clearing as proposed is not likely to have an impact on the environmental values of any conservation areas.

Therefore the clearing as proposed is not likely to be 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 **Proposal is not likely to be at variance to this Principle**
Two minor watercourses intersect the area under application area within Rocky Gully – Frankland Road reserve. One minor watercourse intersects Mills road reserve.

Given the above, the clearing as proposed may increase sedimentation into watercourses located within the areas under application. However, sedimentation will be minor and short term, and given the proposed clearing is for road widening and maintenance there are likely to be culverts in place to manage surface water flow. Therefore, the clearing proposed is not likely to cause deterioration in the quality of surface water.

Groundwater Salinity is mapped between 3000 – 7000 milligrams per litre total dissolved solids which is considered to be moderately saline to saline. The proposed clearing of 3.576 hectares of native vegetation over approximately seven kilometres of two road reserves is not expected to cause a measurable deterioration in the quality of underground water.

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

Methodology GIS Databases:
- Hydrology, linear

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

Comments **Proposal is not likely to be at variance to this Principle**
The proposed clearing of 3.576 hectares of native vegetation within a larger footprint area over two road reserves is not likely to cause or exacerbate the incidence or intensity of flooding.

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

Methodology

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

Two Aboriginal Sites of Significance, 'Frankland River' and 'Yerminup/Frankland Hunting and Camping Areas' have been recorded within the application area within Rocky Gully - Frankland Road reserve. The applicant will be notified of their obligations under the Aboriginal Heritage Act 1972.

No submissions have been received in relation to this application.

Methodology

4. References

CALM (2014) Threatened Animals of Western Autralia. Department of Conservation and Land Management. Western Australia.

DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/. Accessed November 2014

Department of the Environment (2014a). Calyptorhynchus banksii naso in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: http://www.environment.gov.au/sprat.

Department of the Environment (2014b). Calyptorhynchus baudinii in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: http://www.environment.gov.au/sprat.

Department of the Environment (2014c). Pseudocheirus occidentalis in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: http://www.environment.gov.au/sprat.

Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, 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.

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.

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.

Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.

Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

Wilson Inlet Catchment Committee Inc (2012) Flora and Fauna Habitat Survey of Mills Road, Mt Barker. Western Australia. DER Ref:A468545

Wilson Inlet Catchment Committee Inc (2013) Flora and Fauna Habitat Survey of Frankland - Rocky Gully road, Rocky Gully.Western Australia. DER Ref: A848986