Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2189/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Shire of Boddington

1.3. Property details

Property: ROAD RESERVE (LOWER HOTHAM 6390)

Local Government Area: Shire Of Boddington

Colloquial name: Road Seal widening

1.4. Application

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

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
Mattiske Vegetation Complex: Michibin (Mi) - Open woodland of Eucalyptus wandoo over Acacia acuminata with some Eucalyptus loxophleba on valley slopes, with low woodland of Allocasuarina huegeliana on or near shallow granite outcrops in arid and perarid zones.	The proposal is to clear 1hectare of native vegetation over approximately 1.2km road reserve for the reconstruction and maintenance of Harvey-Quindanning Road. The proposed clearing involves the selective removal of vegetation to allow a 6.2m wide sealed road surface to be constructed.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation clearing description is based on a site visit conducted by DEC Officers on 6 December 2007.
Williams (Wi) - Mixture of woodland of Eucalyptus rudis-Melaleuca rhaphiophylla, low forest of Casuarina obesa and tall shrubland of Melaleuca spp. on major valley systems in arid and perarid zones. Beard Vegetation Association: 4- Medium woodland; marri and wandoo.	The vegetation under application comprises Eucalyptus marginata and E. wandoo and occasional Xanthorrhoea preissi. The vegetation in the applied area has limited understorey present which is restricted to Eucalyptus regrowth and Chamaecytisus spp (Tagasaste) a leguminous shrub, with ground cover comprising invasive non-native grasses and is considered to be in a degraded to completely degraded condition, with an average of degraded condition.		

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 vegetation under application is in degraded condition and is contained within a narrow, linear road reserve. The vegetation under application is limited to 3 species and some limited understorey vegetation. Given this, it

is not considered likely that the vegetation under application has a high level of biodiversity.

Methodology DEC site visit - 6/12/2007
GIS Databases:
CALM Managed Lands and Waters - CALM 1/07/05
SAC BIO datasets - accessed on 10/12/2007

(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 may be at variance to this Principle**
Within the local area (10km radius) there have been 47 recorded occurrences of significant fauna species including the following:

- Brush-tailed Phascogale (Phascogale calura, EN),
- Carnaby's Black-Cockatoo,(Calyptorhynchus latirostris, EN),
- Chuditch (Dasyurus geoffroii, VU)
- Forest Red-Tailed Black Cockatoo (Calyptorhynchus banksii naso, VU),
- Peregrine Falcon (Falco peregrinus, Specially Protected),
- Quenda (Isoodon obesulus fusciventer, P5),
- Western Brush Wallaby (Macropus irma, P4),
- Western False Pipistrelle (Falsistrellus mackenziei, P4),
- Swift Moth (Austromerope poultoni, P1)

The vegetation under application is limited to1hectare over approximately 1.2km of road reserve and is in a degraded condition. There is a lack of understorey within the area under application which would limit the habitat potential for ground dwelling fauna species, including the Quenda, Chuditch and the Western Brush Wallaby.

The Eucalyptus trees under application may provide some feeding habitat for bird species such as the Forest Red-Tailed Black Cockatoo and the Carnaby's Black-Cockatoo, however ithe feeding habitat is not considered likely to be significant given the limited vegetation under application and the remnant vegetation in the surrounding State Forest, Timber Reserves and nearby conservation reserves.

The vegetation under application includes individual mature Eucalyptus trees that have the potential to contain hollows suitable to be utilised for habitat by a range of native fauna including Carnaby's Black Cockatoo, the Forest Red-Tailed Black Cockatoo, Western False Pipistrelle and the Brush-tailed Phascogale (Burbidge, 2004).

Given that the mature Eucalyptus trees under application on Harvey-Quindanning Road have the potential to contain habitat hollows which could be utilised by significant fauna, it is considered that the vegetation under application may comprise significant habitat for fauna.

To mitigate any loss of habitat within the area under application, Fauna Management conditions will be imposed on a permit if clearing is approved.

Methodology DEC site visit - 6/12/2007
Burbidge (2004)
DEC (2006)
Simpson and Day (2004)
GIS Databases:
SAC BIO datasets - accessed 10/11/2007

(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**
There are no known populations of Declared Rare Flora (DRF) within a 10km radius of the area under application, however, there are twenty seven known occurrences of fourteen Priority listed flora species, the closest of which is Boronia tenuis (P4) located approximately 1km north of the applied area.

B. tenuis is found within the same vegetation complex and soil association as the area under application and is generally associated with wandoo woodland that has a sparse shrub layer (Western Australian Herbarium, 1998).

Although the identified Priority species B. tenuis is located in close proximity to the area under application, it is found at an elevated position and in clay soils, whereas the soils in the applied area are red, earthy soils containing ironstone gravels (Northcote et al, 1956). Therefore the applied vegetation is unlikely to include habitat that is suitable for B. tenuis.

Given there are no DRF identified within the local area and that suitable habitat is not likely to be present for the nearby Priority listed flora, it is therefore not considered likely that the vegetation under application includes, or is necessary for the continued existence of, rare flora.

Methodology

DEC site visit - 6/12/2007
Northcote et al (1968)
Western Australian Herbarium (1998)
GIS Database:
SAC BIO datasets - accessed 11/12/2007

(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

There are no known occurrences of Threatened Ecological Communities (TEC) within a 20km radius of the area under application. The closest TEC is located approximately 45km west of the applied area and is associated with Eucalyptus calophylla - E. marginata woodlands on sandy clay soils of the southern Swan Coastal Plain.

Given that the vegetation under application is found in the Wheatbelt and comprises Eucalyptus wandoo woodlands associated with ironstone gravel and red soils, and that the nearest TEC is found on the Swan Coastal Plain and is associated with a different land form, it is not considered likely that the vegetation under application comprises, or is necessary for the maintenance of, a TEC.

Methodology

DEC site visit - 6/12/07
GIS Databases:
SAC BIO Datasets - accessed on 10/12/07
Soils, Statewide - DA 11/99

(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

Mattiske (1988) defines the vegetation under application as 'Michibin' and 'Williams' complexes of which there is 26.5% and 20.5% respectively of pre-European extent remaining.

The vegetation under application is also described as Beard vegetation association 4, which has a representation of 23.2% of pre-European extent remaining (Shepherd 2006).

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present pre-European settlement (EPA 2000).

The proposed clearing occurs within the Jarrah Forest Region which has 53.8% of pre-European vegetation extent remaining (Shepherd 2006). The vegetation under application is also within the Shire of Boddington of which there is 70.8% of pre-European extent remaining (Shepherd 2001) and the local area (10km radius) which has approximately 62% of pre-European vegetation remaining.

Although the vegetation under application is part of vegetation complexes that have below the minimum threshold of 30% pre-European extent remaining, given that the Shire and local area respectively have 70.8% and 62% of pre-European extent remaining and the degraded condition of the area under application, it is unlikely to be representative of the vegetation complexes or significant vegetations, therefore the proposed clearing is not considered likely to be at variance to this Principle.

	Pre-European area (ha)	Current extent (ha)	% in reserves/DEC- managed land	Remaining %
Jarrah Forrest	4,506,674	2,426,079	53.8%**	39.2%
Shire of Boddington	195,281	138,327	70.8%*	
Local Area (~10km radius)	~31,400	~19,544	~62%	
Mattiske vegetation complex				
Michibin (Mi)	1,345,524			
	356,512			
	26.5%			
Williams (Wi)	234,849			
	48,193			
	20.5%			

Beard vegetation associations

4
1,054,316
245,361
23.3%**

6.3%
* (Shepherd et al. 2001)
** (Shepherd 2006)
***(EPA, 2006)

Methodology EPA (2006)
Shepherd et al. (2001)
Shepherd (2006)
GIS Databases:
NLWRA, Current Extent of Native Vegetation
Pre-European Vegetation } DA 01/01

(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 not likely to be at variance to this Principle**
There are no wetlands recorded within a 10km radius of the area under application, however there are three known watercourses, the closest of which is the Williams River located approximately 95m north of the applied area. In addition, the Murray River is located approximately 250m northwest and the Hoffam River is located approximately 560m to the north.

Given the distance to the nearest watercourses, and that no wetland dependent vegetation was observed during the site visit, the vegetation under application is not considered likely to include vegetation growing in, or in association with, an environment associated with a watercourse or wetland.

Methodology DEC site visit - 6/12/2007
GIS Databases:
Hydrology, linear (hierarchy) - DOW

(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 soils within the area under application are described as red earths, some of which contain ironstone gravels (Northcote et al, 1968). These soils are associated with a low risk of salinity and have a nil to low risk of acid sulphate soils. It is therefore not considered likely that the proposed clearing would result in any significant increase in salinity or have an impact on acid sulphate soils.

The main land degradation risk associated with the removal of vegetation on the identified soil type is considered to be water erosion, however given the area under application is limited to 1hectare, within a narrow, linear road reserve, it is not likely to result in appreciable water erosion.

Given the above, it is therefore not considered likely that the proposed clearing would result in appreciable land degradation.

Methodology Northcote et al (1968)
GIS Databases:
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC
Salinity Risk LM 25m - DOLA 00
Soils, Statewide - DA 11/99

(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**
There is one area reserved for conservation purposes within a 10km radius of the area under application, being the Lane Poole Reserve which is located approximately 7.3km west of the applied area. In addition the Harris River State Forest, the Dwellingup State Forest and two Un-named Timber Reserves are located within close proximity to the area under application.

The vegetation under application is in a degraded condition, with limited understorey and is isolated from local conservation reserves, therefore it is not considered likely to provide a corridor for movement of fauna between these reserves.

Given the distance and the lack of connectivity to these reserves, it is not considered likely that the proposed clearing would have a direct or indirect impact on the environmental values of any nearby conservation reserve.

Methodology GIS Databases:
CALM Managed Lands and Waters - CALM 1/07/05

(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

The nearest watercourse is the Williams River, which is located approximately 95m north of the area under application. The applied area is within the Peel Estuary-Murray River Catchment, but is not located within a Public Drinking Water Source Area.

The area under application has a nil to low risk of salinity and a nil to low risk of acid sulphate soils. It is therefore not considered likely that the proposed clearing would cause salinity or acid sulphate soils resulting in the deterioration in the quality of underground water.

Soils within the area under application generally have a low risk of land degradation, however the removal of vegetation from the identified soils may result in water erosion. This is likely to be minimal given the area under application is limited to 1hectare, within a narrow, linear road reserve. Given this, and the distance to the nearest watercourse, it is not considered likely that the proposed clearing would cause water erosion resulting in a deterioration in surface water quality.

Methodology DEC site visit - 6/12/2007
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC
Hydrographic Catchments - Catchments
Hydrography, linear (hierarchy) - DOW
Public Drinking Water Source Areas (PDWSAs) - DOW
Salinity Mapping LM 25 - DOLA 00

(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 area under application is located approximately 95m to the south of Williams River and around 250m south of the Murray River at an elevation of 180-195m. Given the area under application is limited to 1hectare, contained within a narrow, linear road reserve, it is not considered likely that the proposed clearing of the vegetation would impact on peak flood height or duration.

Methodology DEC site visit } 6/12/2007
GIS Database:
Hydrography, linear (hierarchy) - DOW

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

Comments

The area under application is located within a Native Title Claim area. The applied area is contained within existing road reserves that are managed by, or invested in the Shire of Boddington. Therefore the clearing as proposed should not fall under the future acts process under the Native Title Act 1993.

No submissions received.

Methodology GIS Databases:
Native Title Claims - DIA

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Road construction o maintenance	Mechanical Removal	1	The assessable criteria have been addressed and the proposed clearing may be at variance to principle (b).

5. References

Burbidge, A. (2004) Threatened Animals of Western Australia, Department of Conservation and Land Management, Perth, Western Australia.

EPA (2006) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas

within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.
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 Consulting (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.
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 (2006) Adapted from: 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
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.
Simpson, K. & Day, N. (2004) Field Guide to the Birds of Australia, Penguin Group (Australia), Camberwell, Victoria.
Site Visit 6/12/2007, Department of Environment and Conservation (DEC), Western Australia. TRIM ref: DOC 41734
Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. http://florabase.calm.wa.gov.au/ Accessed on 12/12/2007.

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)