Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1732/1

Permit type: Area Permit

1.2. Proponent details

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

1.3. Property details

Property: DOLA_LAND_DESCRIPTION

Local Government Area: LGA

Colloquial name: COLLOQUIAL_NAME

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
	125	Cutting	Drainage
		Cutting	Drainage
		Cutting	Drainage
		Cutting	Drainage
		Cutting	Drainage
		Cutting	Drainage
		Cutting	Drainage
		Cutting	Drainage
		Cutting	Drainage
		Cutting	Drainage
		Cutting	Drainage

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
Treloars Road (site 3), One Fourteen Road (sites 1 and 5), Rabbit Proof Fence Road (sites 2, 6 and 10) and Springhurst Road (site 4): Beard vegetation association 1023: medium woodland; York Gum (Eucalyptus loxophleba), Wandoo (Eucalyptus wandoo) and Salmon Gum (Eucalyptus salmonophloia). Treloars Road (site 8) and Moulyinning North Road (site 7): Beard vegetation association 1093: succulent steppe with open woodland and thicket; eucalypts and Swamp Sheoak (Casuarina obesa) over teatree and samphire. Treloars Road (site 9): Beard vegetation association 1094: mosaic: medium woodland; York Gum and Salmon Gum / shrublands; mallee scrub Tall Sand Mallee (Eucalyptus eremophila)	One Fourteen Road: site 1 - approximately 12-15 trees to be removed, photograph indicates York Gum and possibly Wandoo; site 5 - approximately 20-25 trees to be removed, photograph indicates York Gum and several Jam (Acacia acuminata). Rabbit Proof Fence Road: site 2 - approximately 20 trees to be removed, photographs indicate York Gum and salt-affected York Gum and possibly salt-affected Wandoo; site 6 - approximately 3 trees to be removed, photograph indicates York Gum and possibly salt-affected Wandoo; site 10 - approximately 300 square metres of low ground cover and small shrubs, photographs (same as for site 2) indicate salt-affected vegetation (species not determined). Treloars Road: sites 3, 8	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	A sites report and photographs provided by the applicant indicate that the vegetation to be cleared comprises primarily of canopy with limited understorey, and in some areas is salt-affected. Regarding sites 3, 7, 8 and 9 a site inspection undertaken on 2 May 2007 found that individual plants are healthy, and the low sparse habit of the vegetation is typical of salt-affected valley flats.

and Black Marlock (Eucalyptus redunca).	and 9 - a site inspection undertaken on 2 May 2007 confirmed valley floor vegetation comprising at least three species including samphires (species not known but probably Halosarcia and Atriplex spp.). Individual plants healthy, low sparse habit of the vegetation typical of salt-affected valley flats. Springhurst Road: site 4 - approximately 5-10 trees to be removed, photographs indicate York Gum and salt-affected York Gum. Moulyinning North Road: site 7 - a site inspection undertaken on 2 May 2007 and discussion with the Shire of Dumbleyung indicated that no clearing of native vegetation would be undertaken as the proposal now involves the upgrading of an existing culvert in a previously cleared location rather than the construction of a new one further along the road (which would impact on native vegetation).

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

This clearing application involves the removal of native vegetation at 10 roadside sites for the upgrading of culverts to improve drainage through the valley floor.

The vegetation under application is representative of three Beard vegetation associations: type 1023 (6.4% remaining, 1.2% reserved), type 1093 (9.5% remaining, 12.2% reserved), and type 1094 (5.8% remaining, 0.1% reserved) (statistics from DAWA 2005).

The vegetation to be cleared (as determined from the applicant's sites report and photographs) degraded condition York Gum, Jam and possibly Wandoo over low diversity understorey. Some of the areas indicate dead trees, most likely a result of rising saline groundwater or possibly waterlogging.

The vegetation associations represented within the area under application are extensively cleared and under-represented. However, given the degraded nature of the vegetation present within the area under application, and the possible threat of further degradation as a result salinity (as indicated in the applicant's sites report and photographs), it is not considered to have a high level of biological diversity. Therefore it is unlikely that this proposal will be at variance to this principle.

Methodology

Shire of Dumbleyung 2007
DAWA 2001
Beard 1980
GIS dataset
- Pre-European Vegetation DA 2001
- Interim Biogeographic Regionalisation of Australia 2000

(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

The vegetation within the area under application is degraded within an extensively cleared landscape, and is thus not considered to provide significant habitat for indigenous fauna. However it is likely to have an important ecological function in providing a corridor for the movement of animals through the landscape between areas of remnant vegetation. The extent of clearing proposed is not expected to significantly impact on the ability of the

vegetation to provide this corridor function, as the clearing is described by the proponent to extend for a distance of 10 metres parallel with the road and most fauna will traverse this distance. It is also likely that once the clearing and upgrading of the culverts is complete the vegetation will re-establish on these areas.

Regarding significant fauna, there are over 150 recorded occurrences of Threatened and Priority fauna within a 50 kilometre radius of the area under application, approximately half being Threatened species.

The nearest recorded occurrences of Threatened fauna are for Red-tailed Phascogale and Numbat. The Red-tailed Phascogale (Phascogale calura, Threatened) has been recorded in close proximity to site 5 (<200 metres north in 2004, and approximately 2,200 metres north in 2006), and inhabits dense woodland or tall shrubland with a continuous canopy and is most often associated with dense stands of Allocasuarina huegeliana (Rock Sheoak) and Eucalyptus wandoo (Wandoo). The Numbat (Myrmecobius fasciatus, Threatened) was recorded in 1960 approximately 7.3km south of site 7, and inhabits woodland and shrubland where it shelters in hollow logs, tree hollows and burrows. The nearest recorded occurrence of Priority fauna is White-browed Babbler (Pomatostomus superciliosus ashbyi, Priority 4), recorded approximately 6.7km northwest of site 5 in 1987, and inhabits Eucalypt forests and woodlands. Given that the area under application comprises vegetation in degraded condition, it is unlikely that any of these species would depend on this vegetation as significant habitat, although they may use it as a corridor for moving through the area.

Non-threatened but locally-significant and other indigenous fauna species may use the vegetation in the area under application as habitat and as a corridor for moving through the area.

Given the degraded condition of the vegetation in the area under application, it is unlikely that fauna would be specifically dependent on this vegetation for their survival, and it is therefore unlikely that this proposal is at variance to this principle.

Methodology Shire of Dumbleyung 2007
SAC Bio dataset
- Fauna 29/03/07

(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 over 150 recorded occurrences of Declared Rare and Priority Flora within a 50 kilometre radius of the area under application, approximately a third of these comprising Declared Rare Flora.

The nearest recorded occurrence of Declared Rare Flora is Conostylis seorsiflora subsp. trichophylla (Hairy Mat Conostylis) which has been recorded approximately 4,300 metres northeast of site 10. A second occurrence of this species has been recorded approximately 9,300 metres northwest of site 5 of the area under application. This species occurs in sandy loam and grey/white sand.

The soil and geomorphology of the area under application is described as broad flat valleys with small clay pans and salt-lake remnants, with predominantly hard alkaline yellow soils underlain by acid lateritic clays (DAWA 1999). A site inspection undertaken on 2 May 2007 confirmed that the soils present within the area under application (sites 2, 4, 8 and 9 were visited) comprised a hard clayey soil with imported gravels closer to the edge of the road. The soils present within the area under application are generally unsuitable as habitat for the Declared Rare species described above, however the gravelly road verges within the area under application may provide suitable habitat for Priority species Dryandra erythrocephala var. inopinata (Priority 2, recorded approximately 6.7km south of site 7) and Calothamnus affinis (Priority 4, recorded approximately 8.5km south of site 7).

Given that the vegetation within the area under application is in degraded condition, and that those records of Declared Rare and Priority Flora nearest the area under application occur on different soils to those present within the area under application, it is unlikely that this proposal is at variance to this principle.

Methodology GIS dataset
- Soils Statewide DAWA 1999
Schoknecht 2002
SAC Bio dataset
- DeFl 17/04/07
FloraBase

(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 six recorded occurrences of Threatened Ecological Communities within a 50 kilometre radius of the area under application, however the nearest occurrence is approximately 35 kilometres from site 10. The proposed clearing is not likely to impact on this Threatened Ecological Community.

Methodology SAC Bio dataset
- TEC 05/01/07

(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 at variance to this Principle

The vegetation under application is representative of three Beard vegetation associations. These have less than 10% of their pre-European extent remaining.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	Conservation status **	Pre-European % in reserve/DEC
land					
IBRA Bioregions: #					
- Avon Wheatbelt ***	9 578 995	1 536 296	16.0	Vulnerable	
- Mallee	7 404 398	4 081 089	55.1	Least Concern	
Shire of Dumbleyung #	253 816	24 003	9.5	Endangered	
Beard vegetation assoc: *					
- type 1023	1 601 636	103 064	6.4	Endangered	1.2
- type 1093	8 259	782	9.5	Endangered	12.2
- type 1094	70 341	4 057	5.8	Endangered	0.1

statistics from Shepherd et al 2001 (Technical Report 249)
* statistics from AGWA 2005 (Shepherd et al)
** Department of Natural Resources and Environment 2002
*** Within the Intensive Landuse Zone

Although the vegetation within the area under application is in degraded condition, it is representative of extensively cleared vegetation associations within an extensively cleared landscape. However in the long term it is likely that without improved drainage the vegetation will be lost to salinity/waterlogging. This proposal is at variance to this principle.

To mitigate any potential impacts of the clearing on remnant vegetation, while acknowledging the need to maintain and upgrade roads, the proposed clearing will be carried out in accordance with a condition imposed on the permit requiring that clearing of vegetation be avoided, and where this is not possible, minimised. In addition, a condition has been imposed to offset the values of the area to be cleared to address the loss of vegetation within a highly cleared landscape.

Methodology Beard 1980
DAWA 2001
EPA Position Statement No. 2
GIS dataset
- Pre-European Vegetation DA 2001

(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

The area under application is situated low in the landscape (280-290 metres ASL) and is associated with the drainage of a broad valley floor. The vegetation within the area under application is partly comprised of low, sparse samphire-type vegetation associated with salt-affected valley floors. This vegetation is typically associated with this landscape position, and the species do not appear to prevail in terrestrial habitats.

The removal of deep-rooted perennial vegetation from within the area under application may have an impact on depth to the local watertable, thereby potentially affecting other vegetation communities in the vicinity.

For these reasons the proposal is likely to be at variance to this principle, however the flow of water through the valley floor has previously been diverted through the existing culverts or under bridges, and this proposed clearing is for the purpose of upgrading some of these culverts. Impacts to these watercourses are unlikely as existing surface water flows will be maintained and/or improved with the installation of these culverts. In the long term it is likely that without the proposed culverts the movement of water through the valley floor will be restricted by the road and the vegetation will be lost to salinity/waterlogging. It is also likely that the vegetation will regenerate naturally once clearing and culvert upgrading is complete.

Methodology Beard 1980

GIS dataset
- Topographic Contours Statewide DOLA 2002
- Dumbleyung Kukerin 1.4m Orthomosaic DLI 2002

(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

Salinity mapping and salinity risk indicate that the valley floor is saline and at risk of spreading. It is possible that roads with inadequate culvert drainage traversing the valley floor contribute to waterlogging. It is likely that the clearing and subsequent drainage will assist in mitigating current issues with waterlogging and salinity in this area.

The soil and geomorphology of the area under application is described as broad flat valleys with small clay pans and salt-lake remnants, with predominantly hard alkaline yellow soils underlain by acid lateritic clays (DAWA 1999). The soils present within the area under application have a low to medium potential for water and wind erosion (DAWA 2002).

In the short-term the clearing may have an impact on localised flooding and soil erosion during works, and structures such as culverts and spoon drains should be installed to minimise / mitigate these impacts. It is likely that the vegetation will re-colonise the area under application once the clearing and upgrading of the culverts is complete, which will minimise long-term land degradation associated with the clearing. It is unlikely that in the long-term the clearing will result in increased wind or water erosion, waterlogging or salinity, thus this proposal is not likely to be at variance to this principle.

Methodology

DAWA 2001
Schoknecht 2002
GIS dataset
- Salinity Mapping LM (25m) DOLA 2000
- Salinity Risk LM (25m) DOLA 2000
- Topographic Contours Statewide DOLA 2002

(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

Several Conservation Covenanted areas of bushland occur within a 10km radius of the area under application, the nearest being located approximately 4.4km southeast of site 7. These are located higher in the landscape (300-310m ASL) than the area under application (280-290m ASL), and are unlikely to be impacted on by this proposal.

There are more than 50 DEC-managed land parcels within a 50 kilometre radius of the area under application. The nearest of these is Dongolocking Nature Reserve located approximately 4.6km west of site 5. Owing to the distance from the area under application and its higher landscape position (320-330m ASL), it is unlikely that this reserve will be impacted on by this proposal.

An area of bushland occurs adjacent to site 5, although this is not formally managed for conservation as part of the reserve system or under a Conservation Covenant. This area of bushland (290m ASL) may currently be impacted on by waterlogging and salinity, and may benefit from the implementation of this drainage proposal.

Given the above reasons, it is unlikely that this proposal is at variance to this principle.

Methodology

GIS dataset
- Ramsar Wetlands CALM 2003
- System 1-5 and 7-12 Areas DOE 1995
- CALM Managed Lands and Waters CALM 2005
- Clearing Regulations - Environmentally Sensitive Areas DOE 2005
- Agreements to Reserve (ATRs_ DA 2005
- Register of the National Estate EA 2003
- Topographic Contours Statewide DOLA 2005

SAC Bio dataset
- Covenants CALM 2006
- Land for Wildlife sites CALM 2006

(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 area under application is located on road reserves crossing the valley floor, where much of the native vegetation has been compromised as a result of waterlogging, rising watertable and salinity. Salinity mapping

and salinity risk datasets indicate that the valley floor is saline and at risk of spreading.

It is unlikely that this clearing will alter the quality of the surface flow or groundwater, however it may provide benefit in enhancing the free movement of water through the valley floor, thus it is unlikely that this proposal is at variance to this principle.

Methodology GIS dataset
- Salinity Mapping LM (25m) DOLA 2000
- Salinity Risk LM (25m) DOLA 2000
- Topographic Contours Statewide (DOLA 2002)

(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 subject to moderately low rainfall (approximately 350 - 400mm/annum) and matching evaporation rate (approximately 400mm/annum). The landform of the area under application is the valley floor (slightly elevated above this owing to building up of road surface).

It is unlikely that this clearing will result in increased duration or peak flooding, however it may provide benefit in enhancing the free movement of water through the valley floor, thus it is unlikely that this proposal is at variance to this principle.

Methodology GIS dataset
- Evapotranspiration Area Actual BOM 2001
- Mean Annual Rainfall Isohyets BOM 2001
- Topographic Contours Statewide DOLA 2002

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

Comments

The area under application occurs within the "agricultural area" defined in EPA Position Statement No. 2. This document aims to limit the amount of clearing in an extensively cleared landscape, and defines threshold limits for vegetation communities.

It is the applicant's responsibility to ensure that all approvals have been received from relevant stakeholders prior to undertaking clearing.

Methodology GIS dataset
- Aboriginal Sites of Sigificance DIA
- RIWI Act, Ground Water Areas DOW
- RIWI Act, Surface Water Areas DOW

EPA Position Statement No. 2

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Drainage	Cutting	125	Site 1
			All sites 1 to 10 have been assessed against the ten clearing principles. This proposal is at variance to principles (e) and (f) and is not likely to be at variance to principles (a), (b), (c), (d), (g), (h), (i) and (j). The assessing officer recommends that this proposal be granted.
Drainage	Cutting		Site 2
Drainage	Cutting		Site 3
Drainage	Cutting		Site 4
Drainage	Cutting		Site 5
Drainage	Cutting		Site 7
Drainage	Cutting		Site 8
Drainage	Cutting		Site 9
Drainage	Cutting		Site 10
Drainage	Cutting		Site 6
Drainage	Cutting		

5. References

Beard, J.S. (1980) Vegetation Survey of Western Australia, the Vegetation of the Dumbleyung area Western Australia. Vegmap Publications, Perth.

EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.

Schoknecht N. (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3
Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
Shire of Dumbleyung (2007) Fence Road Arterial rain - Road Crossings. Provided as supporting information for CPS 1732/1.

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)