Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1504/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: **City of Albany**

1.3. Property details

Property: ROAD RESERVE (ELLEKER 6330)

Local Government Area: City Of Albany

Colloquial name: Road Reserve - Lower Denmark Rd - From Elleker to Cook Rd junction.

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4.5		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
Beard Vegetation Associations: 3 - Medium forest; jarrah-marri 51 - Sedgeland; reed swamps, occasionally with heath 969 - Mosaic: Medium forest; jarrah-marri / Low forest; jarrah	The proposal is for the clearing of 4.5 hectares of native vegetation within 24.9 hectares or road reserves for road reconstruction and overlay, shoulder widening and shoulder maintenance. The proposed clearing is for 1m along a 14km stretch, up to a maximum of 2 metres. The maintenance will only be to the back slope of the road drain. The dominant over-storey species within the application area are: Agonis flexuosa (Peppermint Tree), Taxandria juniperina, Eucalyptus marginata (Jarrah), Corymbia calophylla (Marri), Eucalyptus diversicolour (Karri; small area), Eucalyptus rudis, Eucalyptus staeri, Nuytsia floribunda, Melaleuca sp., and Allocasuarina fraseriana. The dominant shrub species are: Leptospermum sp. (teatree), Callistachys lanceolata(native willow), Lepidosperma sp. (sword sedge), Beaufortia sparsa (swamp bottlebrush), Anigozanthus flavidus (kangaroo paw), Pteridium esculentum (bracken fern), and Xanthorrhoea sp. (White, 2006)	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Vegetation condition was deemed to be completely degraded to very good (Keighery, 1994) using aerial photography and site photos; vegetation description obtained from the Environment Assessment report (White, 2006).
See above	See above	Completely Degraded:	See above

No longer intact; completely/almost completely without native species (Keighery 1994)

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 may be at variance to this Principle

The proposal is for the clearing of up to 4.5 hectares of native vegetation within a road reserve for road reconstruction, overlay, and shoulder widening and maintenance. The vegetation under application is in very good to completely degraded condition (Keighery 1994). There are records of seven Threatened Fauna species and five Priority Listed Fauna species occurring within a 10km radius of the area proposed to be cleared, with a possibility that the vegetation under application may provide habitat for those species (DEC BCS Advice, 2007). In addition there are 118 records of 33 flora species of conservation significance occurring within 10 kilometres of the area applied to be cleared.

The conservation value of roadsides in the City of Albany was mapped in 2000. Advice was received from the Roadside Conservation Committee that there are sections of the roadside vegetation within the clearing application area with medium high and high conservation value. Values which are assessed during a roadside vegetation survey include the number of different native species present, presence of weeds, fauna observations, value as a biological corridor and level of disturbance. Given these values that may have attributed to the conservation value under which the areas have been classified, this may indicate that these areas have high biological diversity.

Based on this information, the vegetation within the area under application that is relatively intact and of good or better condition may comprise a high level of biological diversity.

It is known that Dieback (*Phytophthora* sp.) occurs in the vicinity of Lower Denmark Road and there is an increased risk of the spread of Dieback into surrounding areas as a result of clearing activities (DEC BCS Advice, 2007). Increased weed invasion may also result due to disturbance associated with the proposed clearing activities. Weed invasion and Dieback can adversely impact on the biodiversity values of native vegetation through the loss of flora species and associated fauna habitat. To mitigate this risk, conditions have been placed on the permit to ensure that hygiene practices associated with Dieback and weed management strategies are adhered to during the clearing process.

Methodology

DEC BCS Advice (2007)
GIS Database:
- SAC Bio-dataset - DEC, 03/08/07

(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

The proposal is for the clearing of approximately 4.5 hectare of native vegetation along Lower Denmark Road for reconstruction, road widening and shoulder maintenance. The vegetation under application appears to be in Very Good to Completely Degraded condition (Keighery 1994)

DEC biodiversity advice indicates that within a 10 kilometre radius from the proposed area for clearing there are 15 known records of Declared Threatened Fauna and 24 records of Priority Fauna, comprising 7 and 5 species respectively. The majority of fauna records relate to the eastern end of the proposed clearing. For approximately four kilometres from Elleker the road reserve has a 40-50m wide uncleared verge on the southern side. A three kilometre section of this part of the road was assigned a conservation value of very high following surveys undertaken in 2000 (Roadside Conservation Committee, 2006). The areas with medium to very high conservation value are likely to be providing an ecological linkage function, linking areas of the landscape, both for inland and coastal remnants (Roadside Conservation Committee, 2006). DEC Albany confirms that the road reserve is significant habitat for two Priority Fauna species, the Southern Brown bandicoot (*Isoodon obesulus fusciventer*) and Water Rat (*Hydromys chrysogaster*), where creek crossings occur. Given the value of the vegetation within the road reserves as an ecological linkage, particularly within a fragmented and extensively cleared landscape (DEC BCS Advice, 2007), the vegetation is likely to represent significant habitat. However, given that the proponent intends to clear between one and two metres along the road, the ecological linkage is likely to be maintained within the vegetation remaining within the road reserve.

The impacts to areas of habitat value within the clearing application area could be minimised by conducting the proposed works in an environmentally sensitive manner, including minimising impacts to drainage or stream lines to avoid impacts to aquatic fauna species. The installation of sediment traps is one method of reducing sediment transport into waterbodies.

Methodology

DEC BCS Advice (2007)
Roadside Conservation Committee (2006)
DEC Geodatabase:

- SAC Bio-Dataset (2007)

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

Comments

Proposal may be at variance to this Principle

There are 118 records of 33 species of Declared Rare and Priority Flora within 10 kilometres of the area proposed to be cleared. There are four records of the Declared Rare Flora (DRF) *Isopogon uncinatus*, approximately 3km south-east of the clearing application area occurring along the coast. It is unlikely that this species of DRF occurs within the clearing application area due to different vegetation type and soil (DEC BCS advice, 2007).

There are records of 31 species of Priority Flora occurring within a 10 kilometre radius of the area proposed to be cleared (DEC Geodatabase, 2007)). An environmental assessment (White, 2006) indicated that *Caladenia plicata* (P4) may be impacted by the proposed clearing. A spring flora survey targeting this species is required of the proponent to determine if *Caladenia plicata* occurs within the area under application. If this species is identified, the proponent is required to implement management actions to avoid individuals identified.

Methodology

White (2006)
DEC BCS Advice (2007)
Roadside Conservation Committee (2006)
GIS Database:
- SAC Biodataset - DEC, 2/8/07

(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

Records indicate there are no known Threatened Ecological and Priority Ecological Communities within a ten kilometre radius of the area under application, with the closest Priority Ecological Community occurring approximately 18 kilometres east of the application area. Therefore the proposed clearing is not at variance to this principle.

Methodology

GIS Database:
- SAC Bio-dataset - DEC, 6/8/07

(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 not likely to be at variance to this Principle

	Pre-European Extent (ha)*	Current Extent (ha)*	Remaining Extent (%)*	% In Conservation reserves/CALM managed land	Status
IBRA Bioregion					
- Jarrah Forest	4,506,674.566	2,426,079.798	53.8	14.0	Least Concern
Vegetation type:					
Beard: 3	2,390,534.71	1,661,219.499	69.5	16.4	Least Concern
Beard: 51	19,960.546	7785.627	39.0	12.1	Depleted
Beard: 969	8,547.333	1409.474	16.5	0.8	Vulnerable
City of Albany	383,84	149,341	38.9		Depleted

* (Shepherd et al. 2001)
* (Shepherd et al. 2006)
** (Department of Natural Resources and Environment 2002)
*** Within the Intensive Landuse Zone

The area under application is located in the Jarrah Forrest Bioregion. The remaining extent of pre-European vegetation within this area is 53.8% (Shepherd et al., 2006).

The area under application falls within the agricultural zone of EPA Position Paper No. 2. The EPA does not support the further reduction in native vegetation through clearing for agriculture and supports active management by landholders to maintain environmental values of remaining vegetation.

While Beard Vegetation Association 969 falls below the National Objectives Targets for Biodiversity Conservation of 30%, the vegetation classified as Association 969 within the application area is considered to be in degraded condition. The length of the section of road along which clearing is proposed which is classified as Association 969 is approximately 1.6 kilometres. If a width of two metres, as stated as a proposed maximum in the Environmental Assessment report (White, 2006), is cleared along this section then the estimated area that may be cleared is approximately 0.32 hectare. Given this small area and the degraded condition of the vegetation along this section

of road, the vegetation proposed to be cleared within Association 969 does not appear to represent a significant remnant of vegetation of this Association. Orthophotography indicates that areas of Association 969 exist within the local area that are more consolidated in spatial extent and of better condition. The areas of vegetation within the clearing application area that considered to be in good or very good condition contain Beard Vegetation Associations 3 and 51 which are not below the 30% target value.

Based on this, the vegetation under application is not considered to be significant as a remnant of native vegetation in an area that has been extensively cleared and the proposal is therefore not likely to be at variance with this Principle.

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2006)
Hopkins et al. (2001)
GIS Database:
- DEC Pre-European Vegetation 02/05

(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**
Numerous watercourses and drainage lines, which flow into a nearby estuary and lake, intersect the road along which the proposed clearing is proposed (GIS Database). Clearing associated with road widening and maintenance is within road reserves that already exist and these road works are likely to impact on watercourses and riparian values, predominantly through removal of riparian vegetation, turbidity and sedimentation. This proposal is therefore at variance to this Principle.

The impacts associated with the proposed clearing should be minimised by implementing strategies to minimise water quality and water flow impacts associated with roads, their construction and maintenance, as recommended in the Environmental Assessment (White, 2006), including installing roadside infrastructure , such as table drains, culverts and sediment traps.

Methodology Hydrography, Linear - DOE 01/02/04
Hydrographic Catchments - Catchments DoE 3/04/03

(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**
DAFWA advise that the proposed clearing of 4.5 hectares of land within the road reserves is unlikely to cause appreciable land degradation. Acid Sulphate Soil risk ranges from unknown to high across the areas under application. However these issues should be minimal as the existing roads already have road infrastructure in place to prevent land degradation associated with roads, including table drains and culverts.

Given the small and linear nature of the application area, it is unlikely that the proposed clearing of native vegetation would cause appreciable land degradation the proposal is therefore not likely to be at variance with this Principle.

Methodology DAFWA (2006)

(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**
The areas proposed to be cleared do not lie within or adjacent to areas set aside for conservation. The closest conservation areas to the proposed clearing are Lake Powell Nature Reserve (1.2km south-east) and Marbelup Nature Reserve (1.5km north-east). The areas under application may provide ecological linkages to these conservation areas as the local area is extensively cleared and of similar vegetation to that found in the conservation areas, however given the minimal amount of clearing outlined in the application, the proposal is not likely to be at variance with this proposal.

Methodology GIS Databases:
- CALM Estate (Statewide) - CALM, 06/06
- Orthophotography (albany_mount_barker_mosaic) - DEC, 3/08/07

(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 eastern end of the area under application is 55 metres from the Marbelup Brook Catchment Area, a P2 Public Drinking Water Supply Area (PDWSA). The application site lies within the Torbay Inlet Catchment within

the Denmark Coastal Basin. The region is of low relief with an annual rainfall of 900-1000mm while evapotranspiration is 900mm. Groundwater salinity is mapped at 0-300mg/L (Total Dissolved Solids).

The proposed clearing for roadworks may cause some short term water quality issues in terms of localised surface water sedimentation during works. However, these issues should be minimised by implementing strategies to minimise water quality issues associated with clearing, as recommended in the Environmental Assessment (White, 2006), including installing roadside infrastructure such as sediment traps.

Due to the small and linear nature of the areas proposed to be cleared, it is unlikely that the clearing of native vegetation for roadworks will cause deterioration in the quality of surface water or groundwater within the local area, therefore the proposal is not likely to be at variance with this Principle.

Methodology GIS Databases:
- Hydrographic Catchments - Catchments - DoE 3/04/03
- Hydrographic Catchments - Basins - DOW
- Rainfall, Mean Annual - BOM 30/9/01
- Evapotranspiration, Isopleths - BOM 9/98
- Groundwater Salinity, Statewide - DOW
- Public Drinking Water Source Area (PDWSAs) - DOW

(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

While some sections of the road are low lying and subject to waterlogging, due to the scale and nature of the proposed clearing, it is unlikely to cause or exacerbate flooding within the local area. The proposal is therefore not likely to be at variance to this Principle.

Methodology Topographic Contours, Statewide - DOLA 12/9/02

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

Comments

There is a Native Title Claim over the area under application. The Department of Environment and Conservation's advertising of the application in the West Australian Newspaper constitutes legal notification of the Native Title representative body for the purpose of the future act procedures under the Native Title Act 1993. No response was received from the representative body.

Approximately half of the road for which works are proposed under this clearing application occurs within a RIWI Act (Plan Under Review) Groundwater Area.

It is known that Dieback (*Phytophthora* sp.) occurs in the vicinity of Lower Denmark Road and there is an increased risk of the spread of Dieback into surrounding areas as a result of clearing activities (DEC BCS Advice, 2007) and the subsequent road works proposed. Increased weed invasion may also result due to disturbance associated with the proposed clearing activities and the proposed road works. Weed invasion and Dieback can adversely impact on the biodiversity values of native vegetation through the loss of flora species and associated fauna habitat. To mitigate this risk, conditions have been placed on the permit to ensure that hygiene practices associated with Dieback and weed management strategies are adhered to during clearing, road construction and maintenance.

The proposed clearing for roadworks may cause some short term water quality issue. These issues should be minimised by implementing strategies to minimise water quality issues associated with roads, their construction and maintenance, as recommended in the Environmental Assessment (White, 2006), including installing roadside infrastructure , such as table drains, culverts and sediment traps.

Methodology GIS Databases:
- Native Title Claims - DLI
- RIWI Act, Groundwater Areas - DOW

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Road construction oRemoval maintenance	Mechanical	4.5	Selective removal as required for future roadworks, backhoe and horizontal mulcher operation.

5. References

DAFWA Land degradation assessment report (2006). Office of the Commissioner of Soil and Land Conservation, Department

of Agriculture and Food Western Australia. DEC TRIM ref DOC8720.
DEC (2007) Biodiversity advice for land clearing application. Biodiversity Coordination Section, Department of Environment and Conservation, Western Australia. DEC TRIM ref DOC13114.
Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
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.
Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
Roadside Conservation Committee (2006). Comments from the RCC on clearing application for Lower Denmark Road, City of Albany, CPS 1504.
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.
White, K. (2006). Environmental Assessment Report.

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)