Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2063/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Dandaragan

1.3. Property details

Property: LOT 11268 ON PLAN 182862 (HILL RIVER 6521)
Local Government Area: Shire Of Dandaragan
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20		Mechanical Removal	Extractive Industry

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation association 1031: Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath. (Hopkins et al, 2001; Shepherd et al, 2001)	The vegetation is an open low heath consisting mainly of Dryandra spp., Daviesia sp. and Xanthorrhoea preissii. Frequently occurring plants include Acacia sp., Allocasuarina sp., Banksia spp., a few individuals of Eucalyptus macrocarpa and Hakea sp. The distribution of species is fairly uniform in areas visited. (DEC Site visit, 2007) The site consists of typical species rich low Kwongan vegetation that supports the occurrence of at least 61 different plant species (Shire of Dandaragan Flora Report, 2007) The vegetation is considered to be in a 'pristine' condition (Keighery, 1994).	Pristine: No obvious signs of disturbance (Keighery 1994)	The description and condition of the vegetation under application were obtained through a site visit conducted on 7 November 2007 and the Flora Report submitted by the Shire of Dandaragan (DEC Site visit, 2007; Shire of Dandaragan Flora Report, 2007).

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 is an open low heath consisting mainly of Dryandra spp., Daviesia sp. and Xanthorrhoea preissii. Frequently occurring plants include Acacia sp., Allocasuarina sp., Banksia spp., a few individuals of Eucalyptus macrocarpa and Hakea sp. The distribution of species is fairly uniform in areas visited. (DEC Site visit, 2007) The site consists of typical species rich low Kwongan vegetation that supports the occurrence of at least 61 different plant species (Shire of Dandaragan Flora Report, 2007) The vegetation is considered to be in a 'pristine' condition (Keighery, 1994).

There appears to be no evidence of agricultural weed or known Phytophthora dieback in the survey area (Shire of Dandaragan Flora Report, 2007).

There is a Priority 1 taxa which is likely to be either Tricoryne Eneabba or T. robusta occurring mainly on the south east section of the proposal area. However, populations of this species also occur from Eneabba to south

of Jurien to West Watheroo National Park (Shire of Dandaragan Flora Report, 2007). Therefore the proposed clearing is unlikely to impact on the continued existence of this Priority 1 species.

Daviesia epiphylla, which is a Priority 4 taxa, is present in the survey area. However, it is a relatively common short-lived prolific seed setting species that has regenerated well after disturbance in the adjoining active pit (Shire of Dandaragan Flora Report, 2007). Therefore the proposed clearing is unlikely to impact on the continued existence of this Priority 4 species.

The area under application is in close proximity to the Lesueur and Drovers Cave National Parks. It is a Conservation Commission reserve for the purpose of gravel resource management, restoration and conservation. Non existence of fires in the local area, at least over the past 10 years, suggests the possible occurrence of a significant seed bank (Shire of Dandaragan Flora Report, 2007). A Gravel Lease exists for the area under application, which consists of dieback, rehabilitation and biodiversity restoration conditions.

The proposal site may possess similar biodiversity as the surrounding landscape. However, given that the area proposed to be cleared is small (20 hectares at a clearing rate of 4 ha per year) compared to the large expanse covered by the Lesueur and Drovers Cave National Parks, it is unlikely that the biodiversity of the local area would be significantly compromised. The possible existence of a mature seed bank and compliance with the dieback, rehabilitation and biodiversity restoration conditions on the Gravel Lease may ensure the restoration of the original biodiversity over time. The area under application is not likely to contain a higher level of biodiversity than that would be found locally in the nearby National Parks.

Therefore this proposal is not likely to be at variance to this Principle.

Methodology GIS Databases:
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.
DEC Site visit (2007)
Keighery (1994)
Shire of Dandaragan Flora Report (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 is not likely to be at variance to this Principle**
The proposal is a typical species rich low Kwongan vegetation that supports the occurrence of at least 61 different plant species (Shire of Dandaragan Flora Report, 2007) The vegetation is considered to be in a 'pristine' condition (Keighery 1994). The area under application is in close proximity to the Lesueur and Drovers Cave National Parks. It is a Conservation Commission reserve for the purpose of gravel resource management, restoration and conservation. It adjoins an existing gravel pit.

There is one record of Cyclodomorphus branchialis and three records of Carnaby's Black Cockatoo, which are Declared Threatened Fauna, and some records of Priority 4 Fauna namely Western Brush Wallaby, Ghost Bat, White-browed Babbler (Western Wheatbelt) and Australian Bustard within a radius of approximately 10 km from the proposal site. However these populations occur in the Lesueur National Park (except for the White-browed Babbler which occurs in cleared farmlands) at a considerable distance from the proposal site with the nearest occurrence being approximately 4 km north east of the proposal area.

The area under application could provide habitat for these and other local fauna. However, given that it is situated adjacent to a well vegetated landscape, faunal populations would find similar habitat nearby. Thus the proposal is not likely to significantly impact upon the local Fauna.

Methodology GIS Databases:
- SAC Bio Datasets (090108)
DEC Site visit (2007)
Keighery (1994)
Shire of Dandaragan Flora Report (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 37 records of Declared Rare Flora (DRF) and over 100 records of Priority Flora within a radius of about 10 km, with the closest occurrence being approximately 150 m from the area under application. Four of the DRF and 13 of the Priority Flora occur on the same broad soil type as the area under application.

According to the Shire of Dandaragan flora survey, there were no species of DRF located within the survey area. The flora survey also indicated that the most likely species to occur within the area under application is the late flowering (October-November) Acacia forrestiana. (Shire of Dandaragan Flora Report, 2007) However, desktop analysis revealed that A. forrestiana occurs mostly on a different soil type and therefore is not likely to occur on the soil type found within the area under application.

Due to the absence of any DRF within the proposal area (Shire of Dandaragan Flora Report, 2007), and given that the area proposed to be cleared is small (20 hectares at a clearing rate of 4 ha per year) compared to the large expanse of the Lesueur and Drovers Cave National Parks, where most of the Significant Flora occur, it is unlikely that the proposal area is necessary for the continued existence of Rare Flora.

Methodology GIS Databases:
- Declared Rare and Priority Flora list - CALM 01/07/05
- Clearing Regulations - Environmentally Sensitive Areas - DoE 30/05/05
- SAC Bio Datasets (090108)
DEC Site visit (2007)
Shire of Dandaragan Flora Report (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 two known Threatened Ecological Communities (TEC's) and their buffers that are located approximately 11 km east of the proposed clearing.

There are 10 known Potentially Threatened Ecological Communities (PEC's) within a radius of approximately 10 km from the area under application. The closest known PEC occurs approximately 6 km from the area under application.

The TEC's are known as species rich heath with emergent Hakea obliqua and species rich low heath dominated by Allocasuarina microstachya. The area under application and the TEC's appear to share the same soil type. However, the component species of the TEC's are not likely to occur within the area under application (Shire of Dandaragan Flora Report, 2007) even though the soil type in the proposal area may support their existence.

The known PEC's include seven low heath communities of Petrophile chrysantha and three woodland communities of Melaleuca preissiana. Two of the Petrophile chrysantha communities are located on the same soil type found in the area under application while five of those communities are known to occur in a soil type that is different from the area under application. Two of the Melaleuca preissiana woodland communities share the same soil type as the proposal area while one community occurs in a different soil type. Therefore, the PEC's are not confined to the soil type characterised by the area under application.

None of the PEC representatives (Petrophile chrysantha and Melaleuca preissiana) were recorded within the proposal area (Shire of Dandaragan Flora Report, 2007) suggesting that they are unlikely to be occurring within the area under application.

Due to the large distance (6 km) it is unlikely that the clearing as proposed will have any impact on the environmental values of the TEC's or PEC's.

This proposal is therefore not likely to be at variance with this principle.

Methodology GIS Databases:
- Threatened Ecological Communities - CALM 12/04/05
- SAC Bio Datasets (050308)
Shire of Dandaragan Flora Report (2007)

(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	Current area (ha)*	Remaining extent (ha)*	Reserves/CALM- %*	managed land, %*
IBRA Bioregion - **				
Geraldton Sandplains	3,136,277	1,324,440	42.2	35.6
Shire - Dandaragan**	668,507	326,283	48.8	Not available
Beard veg type - 1031	269,505	93,975	34.9	38.5

* (Shepherd et al. 2001, Shepherd 2006)
** Area within the Intensive Land use Zone

The vegetation under application is a component of Beard Vegetation Association 1031 (Hopkins et al. 2001) of which there is 34.9% of the pre-European extent remaining (Shepherd, 2006). The vegetation under application also falls within the Geraldton Sandplains Bioregion and the Shire of Dandaragan of which there is 42.2% and 48.8% of pre-European extent remaining, respectively (Shepherd, 2006).

The area under application falls within the Intensive Landuse Zone as described under EPA Position Statement No.

2. From an environmental perspective the EPA is of the view that it is unreasonable to expect to be able to continue to clear native vegetation from land within the agricultural area other than relatively small areas and where alternative mechanisms for protecting biodiversity are addressed (EPA, 2000). If clearing is approved a condition to offset the values of the vegetation will be imposed.

On the basis that the pre-European extent of the Beard Vegetation Association, Geraldton Sandplains Bioregion and the Shire of Dandaragan meets the National Objectives Targets for Biodiversity Conservation 2001-2005, being 30 % of that present pre-1750 (AGPS, 2001), this proposal is not likely to be at variance to this Principle.

Methodology

GIS Databases:
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Pre-European Vegetation - DA 01/01
- Local Government Authorities - DLI 08/07/04
- EPA Position Paper No 2 Agriculture Region - DEP 12/00

AGPS (2001)
EPA (2000)
Shepherd et al (2001)
Shepherd (2006)

(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 at variance to this Principle

There are no major watercourses or wetlands within the area under application (DEC Site Visit, 2007). DAFWA (2007) advised that 'there are no defined drainage lines through the location'. Therefore, this application is not at variance to this Principle.

Methodology

GIS Databases:
- Hydrography, linear - DoE 01/02/04
- Hydrographic Catchments - Catchments - DoE 23/03/05

DAFWA (2007)
DEC Site Visit (2007)

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

Comments

Proposal may be at variance to this Principle

The area under application falls within the 600 mm per annum rainfall region. Chief soils of the proposal site are sandy acidic yellow mottled soils with ironstone gravel and lateritic sandy gravels. The sandy surface soils in this region with this slope are defined as Land Capability Class II where any limitations will be overcome by careful planning. There was no evidence of salinity on the site or on surrounding land. The proposal site has a slope of 3.7 degrees. (DAFWA, 2007)

DAFWA (2007) advised that the clearing is not likely to cause appreciable land degradation.

Wind erosion is likely to be associated with the clearing as the surrounding vegetation is low heath. To mitigate this impact rehabilitation conditions will be placed on the Permit if clearing is approved.

Methodology

GIS Databases:
- Rainfall, Mean Annual - BOM 30/09/01
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide - DA 11/99

DAFWA (2007)

(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 may be at variance to this Principle

The area under application is surrounded by the Lesueur National Park on northern, eastern and western sides. There are other Nature Reserves within the local area (20 km radius), particularly the Drovers Cave National Park which is also listed on the Register of National Estate.

Given the size of the proposed clearing (20 ha) and the close proximity to the Lesueur National Park the area under application may provide inherent value in facilitating the movement of fauna and in protecting the ecological values of the conservation areas. Therefore, the proposed clearing may be at variance to this Principle.

To mitigate this impact revegetation conditions will be imposed if clearing is approved.

Methodology GIS Databases:
- CALM Regional Parks - CALM 12/04/02
- CALM Managed Lands & Waters - CALM 01/07/05
- Proposed National Parks FMP-CALM 19/03/03
- Register of National Estate - EA 28/01/03

(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 situated within the Coastal Hydrographic Catchment. The area under application is not situated within a Public Drinking Water Source Area (PDWSA).

There are no watercourses or surface expressions of groundwater in the area under application (DAFWA, 2007; DEC Site Visit, 2007).

The depth to groundwater could not be determined from available data.

The area subject to this proposal has an average annual rainfall of 600 mm and an evaporation rate of 600 mm per annum. DAFWA (2007) advised that there was no evidence of salinity on the site or on surrounding land. The groundwater shows salinity levels of 500-1000 TDS mg/L which is again considered to be fresh.

Given the low salinity levels and no known watercourses or surface expressions in the area under application the proposed clearing is not likely to be at variance with this principle.

Methodology GIS Databases:
- Current WIN data sets
- Public Drinking Water Sources (PDWSAs) - DOE 09/08/05
- Hydrographic Catchments - Catchments - DOE 23/03/05
- Hydrography, linear - DoE 01/02/04
- Mean Annual Rainfall Isohyets (1975 - 2003) - DOW
- Rainfall, Mean Annual - BOM 30/09/01
- Potential Groundwater Dependant Ecosystems - DOE 2004
- Groundwater Salinity, Statewide - 22/02/00

DAFWA (2007)
DEC Site Visit (2007)

(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 soils under application consist mainly of sandy acidic yellow mottled soils with ironstone gravel and lateritic sandy gravels. The area subject to this proposal has an average annual rainfall of 600 mm and an evaporation rate of 600 mm per annum. The proposed clearing will be in a mid slope position on the landscape.

Due to the high infiltration rates of the sandy soils, low average annual rainfall, high rate of evaporation and the relative mid slope position of the proposal site on the landscape, it is unlikely that the proposed clearing will contribute to water logging and flooding. Therefore it is unlikely that this proposal is at variance with this Principle.

Methodology GIS Databases:
- Mean Annual Rainfall Isohyets (1975 - 2003) - DOW
- Rainfall, Mean Annual - BOM 30/09/01
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The Shire of Dandaragan advised that the 'Council supports the application for land clearing of portion of Reserve 35593 for the purpose of extraction of gravel'.

There is no further requirement for a RIWI Act Licence or Works Approval.

There is a Native Title claim over the area under application. The advertisement of the application in the West Australian newspaper by the Department of Environment and Conservation 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.

The area under application is contained under an existing Gravel Lease pursuant to the Conservation and Land

Management Act 1984. The lease agreement specifies that a small area of 2 ha will be cleared at any given time followed by rehabilitation.

There are no Aboriginal Sites of Significance in the area under application.

There are four Environmental Impact Assessments (EIA's) over the area under application however these EIA's do not affect the area under application.

Methodology GIS databases:
- Native Title Claims - DLI 7/11/05
- Aboriginal Sites of Significance - DIA 26/04/07
- Environmental Impact Assessments
- EPA Position Paper No 2 Agriculture Region - DEP 12/00

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Extractive Industry	Mechanical Removal	20	The assessable criteria have been addressed and the proposal may be at variance to Principle (g) and Principle (h). Dieback control, weed control, offset and revegetation conditions will be imposed if clearing is approved.

5. References

AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.

DAFWA (2007) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DEC TRIM Ref DOC37529.

DEC Site Visit (2007) Department of Environment and Conservation (DEC), Western Australia. DEC TRIM ref DOC41913.

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.

Shepherd, D.P. (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.

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)