



1. Application details

1.1. Permit application details

Permit application No.: 2471/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Chapman Valley

1.3. Property details

Property: LOT 11898 ON PLAN 243043 (WANDANA 6532)
 ROAD RESERVE (WANDANA 6532)
 Local Government Area: Shire Of Chapman Valley
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4		Mechanical Removal	Extractive Industry
		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 Association: 372: Mosaic: Shrublands; scrub-heath on deep sandy flats / Shrublands; thicket, acacia-casuarina alliance	The vegetation held within 11898 on Plan 243043 is of excellent condition. The site on Wandana Road appears to have been burnt several years ago and is undergoing good regeneration (DAFWA, 2008).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Vegetation condition was obtained through aerial imagery (Mungo 1.4m Orthomosaic) and a site visit (DAFWA, 2008).
380: Shrublands; scrub-heath on sandplain			
As above	The vegetation held within the road reserves is of a degraded condition.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation condition was obtained through aerial imagery (Mungo 1.4m Orthomosaic) and a site visit (DAFWA, 2008).

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 application is to clear 4 hectares of vegetation for gravel extraction from two sites. The areas proposed to be cleared consists of beard vegetation associations 372 and 380 of which there is approximately 34.5% and 58.2% of the Pre-European extent remaining respectively (Shepherd et al., 2006).

The southern border of the application areas is within the road reserves of Wandana and Coonawa and the vegetation here displays fringing disturbance and therefore in a degraded condition (Keighery, 1994). the majority of the application is within Wandana Nature Reserve, which is an unclassified reserve. The vegetation within this portion of the application is of excellent condition.

The Shire of Chapman valley is within the EPA Position Statement No.2 (2000) agricultural region. As it stands now the proposed clearing does not fall within the boundaries of this statement.

Within a 30 kilometre radius of the area under application there is approximately 40% native vegetation cover, much of this is secure within Wandana Nature Reserve (approx 26,000ha).

Given that a portion of the vegetation is of a degraded condition, and the large extent of secure vegetation within the local area it is unlikely the application area represents an area of higher biodiversity value when

compared to representative vegetation in a local and regional context.

Methodology EPA (2000)
Keighery (1994)
Shepherd et al. (2006)
GIS Layers:
- Mungo 1.4m Orthomosaic

(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

Several species of conservation significance have been previously recorded within a 30km radius of the application area. The fauna recorded include:

- * *Ardeotis australis* (Australian Bustard) - Priority 4;
- * *Pomatostomus superciliosus ashbyi* (White Brown Babbler) - Priority 4
- * *Lerista yuna* (skink) - Priority 3;
- * *Egernia stokesii badia* (Western Spiny-tailed Skink) - Vulnerable; and
- * *Idiosoma nigrum* (Shield-backed Trapdoor Spider) - Vulnerable;

The area is likely to provide habitat for reptile species, including the skinks, spider and birds mentioned above.

The fauna habitats within the proposed area to be cleared are well represented elsewhere within the local and regional area. The area to be cleared does not represent a fauna corridor and therefore the clearing will not remove an ecological linkage that is necessary for the maintenance of fauna. Given this, and the size small of the proposed clearing area's (less than 1ha per gravel pit) it is unlikely that the area proposed to be cleared provides significant habitat for native fauna.

Methodology GIS Layer:
- Sac biodatasets 050608

(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

Within the local area (30km radius), there are two recorded sightings of rare flora. They are *Caladenia bryceana* subsp. *cracens* (18km south of the application area) and *Caladenia wanosa* (16.8km south of the application area).

Caladenia bryceana subsp. *cracens* is a small perennial herb that prefers sand over limestone habitats (WA Herbarium, 2008). *Caladenia wanosa* is a small perennial herb also that prefers sandstone outcrops (WA Herbarium, 2008)

Both species were recorded in different vegetation type and soil type to the proposed clearing area.

Given the above, and the small and good to degraded condition (Keighery, 1994) of the application area, it is unlikely that the application is at variance to this principle.

Methodology Keighery (1994)
WA Herbarium (2008)
GIS Layer:
- Sac biodatasets 050608

(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 threatened ecological communities within the local area (30km radius). The area proposed to be cleared is scrub heath in degraded - good condition (Keighery, 1994) and shares no characteristics with areas that are likely to contain threatened ecological communities. It is unlikely that the proposed clearing is at variance to this principle.

Methodology Keighery (1994)
GIS Layer:
- Sac biodatasets 050608

(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 extent (ha)	Remaining (ha)	%	
IBRA Bioregions*				
Geraldton Sandplains	3,136,277	1,324,440	42.2	
Sub bioregion				
Geraldton Hills	1,964,472	845,453	43.0	
Shire*				
Chapman Valley	397,967	121,158	30.4	
Beard Vegetation Complex*				
372	82,088	28,345	34.5	
380	580,408	338,073	58.2	

* (Shepherd et al. 2006)

Approximately 42.2% and 43.0% of the Pre-European vegetation remains in the IBRA Geraldton Sandplains bioregion and Chapman Valley IBRA sub-region respectively, within which this proposal is located (Shepherd et al., 2001). The vegetation applied to be cleared is part of Beard Vegetation association 372, which has approximately 34.5% of the Pre-European extent remaining.

All of these percentages are above the National Objectives Targets for Biodiversity Conservation, which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (EPA 2000).

The area under application falls on the boundary of a Position Statement No. 2 area. However the proposed clearing is not intended for agricultural purposes and therefore the position statement does not apply.

Based on the above, the proposed clearing 4 ha is not likely to be at variance to this Principle.

Methodology EPA (2000)
Shepherd et al. (2006)
GIS Layer:
- EPA Position Statement No. 2
- Pre European Vegetation - DA 10/01
- Interim Bioregionalisation of Australia - EA 18/10/00

(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
The Greenough River is located 4.5km west of the application area. Given the distance from the proposal to the river it is unlikely that the vegetation under application provides a buffer or will effect riparian vegetation and the functioning of the Greenough River.

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

Methodology GIS Layer:
- Hydrography (hierarchy)

(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 proposal is for the clearing of 4 hectares of native vegetation for the purpose of extracting gravel.

The area under application is located within the Geraldton hills subregion with landform description of gently undulating plateau underlain by sedimentary rocks (Northcote, 1961-1968). Chief soils are yellow earthy sands. The topography of the application area is 240m - 260m AHD which is of a low relief.

The annual rainfall and evapotranspiration rate of the region is 300mm. There is no mapping of acid sulfate soil risk within the application area.

The areas under application are surrounded on three sides by dense vegetation within the Wandana Nature Reserve. This thick coverage may reduce soil erosion from sandy soils during earth works.

DAFWA (2008) advice states that the clearing of 4 ha is not likely to cause land degradation within the application or surrounding areas.

Given the above, and the low topography of the local area, it is unlikely that the clearing of native vegetation for the purpose of gravel extraction will cause appreciable land degradation.

Methodology DAFWA (2008)
Northcote (1961-1968)
GIS Layers:
- Topography contours, statewide - DOLA 12/09/02
- Rainfall, mean annual - BOM 30/09/01
- Mungo 1.4m Orthomosaic
- Evapotranspiration rate

(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 at variance to this Principle

Currently the application area is within the Wandana Nature Reserve. There are two application areas; one is located within the road reserve of Wanda Road and the Nature Reserve. The other is located within Coonawa Road Reserve and the Nature Reserve.

Given the above, the application is at variance to this principle. If granted, revegetation and rehabilitation conditions may be placed on the permit.

Methodology GIS Layer:
- CALM Managed lands

(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 application is 4.5km west of the nearest surface water source, with a low topographical relief down gradient to the river. Given the distance from the river it is unlikely that the application will cause surface water deterioration.

The area under application is within the Greenough River hydrographic catchment. The hydrogeology of the area consists of rocks of low permeability, fractured weathered rocks - local aquifers. The area is not within a Public Drinking Water Source Area (PDWSA).

The groundwater salinity has been mapped for 3000-7000mg/L Total Dissolved Solids (TDS) which is rated as saline. No Acid Sulphate Soil (ASS) mapping has been completed for the area.

Given the small application area and level of vegetation remaining in the local area (30kms), clearing is unlikely to cause deterioration in the quality of surface or groundwater.

Methodology GIS Layer:
- Hydrogeology
- Hydrography catchments - catchment DOE 23/03/05
- Rainfall, Mean Annual - BOM 30/09/01
- Groundwater salinity

(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 purpose of the application is for gravel extraction. Clearing of 4ha is unlikely to have a significant impact on quality or quantity of groundwater given the mean annual rainfall and evapotranspiration rate for the site is 300mm.

Given the above, and the small application area it is unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of flooding.

Methodology GIS Layer:
- Rainfall, Mean Annual - BOM 30/09/01

- Evapotranspiration rate

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

Comments

The area under application falls within the Wandana Nature Reserve and the road reserves of Wandana and Coonawa. The shire has sought for the reclassification of the application area from a Nature Reserve to CALM Act 5(l)(h) reserves for the purpose of gravel extraction and conservation.

The Conservation Commission supports the proponent's application. Furthermore, the Conservation Commission intends to care, control and managed the 6 gravel sites under section 5(1)(h) of the Conservation and Land Management Act 1984 (CALM ACT). Power to lease would be obtained, to allow the reserve to be lease to the Shire.

The Conservation Commission referred its decision regarding the proposal to the Minister for the Environment - Climate Change as required under section 19(1)(e) of the CALM Act. The Minister replied stating that subject to native vegetation clearing approval, an order will be made to give effect to the excision of the application areas from Wandana Nature Reserve.

Lot 11898 on Plan 243043 is within DPI land. The excision will lead to the land being controlled and managed by the Conservation Commission. The Conservation Commission supports the shires application.

Methodology

4. Assessor's comments

Comment

The clearing has been assessed according to the ten principles. Principle (h) was found at variance to the principle. All other principles have been found to not likely be at variance.

5. References

- DAFWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DEC TRIM ref DOC55227.
- 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western 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.
- 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.
- Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.calm.wa.gov.au/> (Accessed 05/06/2008).

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)

