Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7463/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Shire of Ravensthorpe

1.3. Property details

Property: West River Road reserve (PIN 11634148), West Fitzgerald
Local Government Authority: RAVENSTHORPE, SHIRE OF
DER Region: South Coast
DPaW District: ALBANY
Localities: West Fitzgerald

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.48		Mechanical Removal	Gravel extraction

1.5. Decision on application

Decision on Permit Application: Refuse
Decision Date: 6 October 2017
Reasons for Decision: The application for a permit to clear 1.48 hectares of native vegetation for the purpose of gravel extraction was received on 3 February 2017. The application has been assessed in accordance with the requirements of section 51O of the *Environmental Protection Act 1986* (EP Act).

Decision to refuse the application:
The Delegated Officer determined that the proposed clearing may be at variance to clearing principles (a), (b), (c) and (d).

On 16 June 2017, the Delegated Officer wrote to the applicant requesting that flora and vegetation surveys are undertaken within the application area based on nearby record of a rare flora species (which is also known from road verges), the application area being in excellent condition, may be representative of the threatened ecological community and consideration of advice received from the Department of Biodiversity Conservation and Attractions.

On the 17 July 2017, the applicant advised that they did not intend to undertake surveys within the application area.

Based on the assessment and site inspection findings and expert advice from the Department of Biodiversity, Conservation and Attractions, the Delegated Officer considers that there is insufficient information available at this time, to determine the likely environmental impacts of the proposed clearing and the subsequent acceptability or otherwise of the proposed clearing. The Delegated Officer has determined to refuse to grant a clearing permit at this time.

The Applicant will be notified that a copy of the assessment will be kept on file should they wish to reapply once further information on the environmental values of the application area is provided.

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

Broad scale vegetation mapping classifies the application area as: • **Beard vegetation association 519**: Shrublands; mallee scrub, *Eucalyptus eremophila* (Shepherd et al., 2001).	The application is to clear 1.48 hectares of native vegetation within West River Road reserve (PIN 11634148), West Fitzgerald for the purpose of gravel extraction.	Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To Degraded; Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).	The vegetation type and condition was determined through mapping, and confirmed during a site inspection conducted by the then Department of Environment Regulation (**DER**) officers on 22 February 2017 (**DER site inspection**). The vegetation within the application area consists of *Eucalyptus* spp. overstorey with dense midstorey of *Melaleuca* spp., with *Banksia* spp. in the eastern portion. The southern boundary of the application area has been impacted by previous extraction activities, regeneration of native species was observed including immature *Eucalyptus* spp. (DER, 2017).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposed clearing may be at variance to this Principle

The application is to clear 1.48 hectares of native vegetation within West River Road reserve (PIN 11634148), West Fitzgerald, for the purpose of gravel extraction (refer Figure 1).

The DER site inspection found that the vegetation within the application area consists of *Eucalyptus* spp. overstorey with dense midstorey of *Melaleuca* spp., with *Banksia* spp. in the eastern portion. The southern boundary of the application area has been impacted by previous extraction activities, regeneration of native species was observed including immature *Eucalyptus* spp. (DER, 2017).

The local area considered in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area. The majority of the current extent of vegetation cover in the local area is located in patches separated by cleared agricultural land, connected by vegetated road reserves.

The application area is located within the Lake Magenta-King Lakes macro ecological corridor (Wilkins et al., 2006). This corridor provides fauna habitat mostly in very Excellent to Good condition (Keighery, 1994) and is part of an ecological linkage between remnants. Ecological corridors are critical to maintaining ecological processes such as the movement of fauna and population survival. Habitat loss and fragmentation are the main contributors to biodiversity decline across landscapes (Scotts and Drielsma, 2003).

Figure 1: Application area

Noting the composition of the vegetation within the application area, the application area may be representative of the Commonwealth-listed 'Proteaceae dominated kwongkan shrublands of the southeast coastal floristic province of Western Australia' community, which is a threatened ecological community (**TEC**). TECs are discussed further under Principle (d).

The application area contains Proteaceous flora species that provide suitable foraging habitat for threatened fauna Carnaby's cockatoo (*Calyptorhynchus latirostris*) and is located 36 kilometres east, 31 kilometres west and 24 kilometres north west of confirmed Carnaby's cockatoo breeding areas, and may therefore comprise significant habitat for this species. Fauna are discussed further under Principle (b).

According to available databases, seven priority flora have been recorded in the local area. Of these, the application area is likely to contain suitable habitat for two Priority 3 flora species (Western Australian Herbarium, 1998-). The former Department of Parks and Wildlife (**Parks and Wildlife**) advised that the road verge is typically in excellent condition and recommended a flora survey (Parks and Wildlife, 2017). The application area is mapped as similar vegetation and soil types as a known rare flora occurs on, approximately 12 kilometres from the application area. It is possible that the vegetation within the application area is suitable habitat for this species.

Given the above, the application area may comprise a high level of biological diversity. The proposed clearing may be at variance to this Principle.

Flora and vegetation surveys conducted by a suitably qualified person would determine the presence or absence of priority flora and a TEC, and the extent of impacts as a result of the proposed clearing.

Methodology

References:
DER (2017)
Keighery (1994)
Parks and Wildlife (2017)
Scotts and Drielsma (2003)
Western Australian Herbarium (1998-)
Wilkins et al. (2006)

GIS Database:
SAC Bio datasets – Accessed March 2017

(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

Proposed clearing may be at variance to this Principle

No fauna species listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (**WC Act**) have been recorded within the local area (10 kilometre radius) (DBCA, 2007-).

The application area occurs within the known distribution of Carnaby's cockatoo (which is listed as 'fauna that is rare or is likely to become extinct' under the WC Act), and is located 22 kilometres east and 30 kilometres west of two confirmed breeding areas for this species. The application area contains suitable foraging habitat for this species (DER, 2017).

As discussed under Principle (a), the application area is located within the Lake Magenta-King Lakes macro ecological corridor, which provides fauna habitat mostly in Excellent to Good condition and is part of an ecological linkage between remnants. The proposed clearing may result in degradation of the ecological linkage, thereby impacting fauna movement in the local area.

Noting the condition of the vegetation within the application area, and that the application area is part of an ecological corridor, the vegetation within the application area may comprise significant habitat for indigenous fauna including threatened black cockatoos.

Given the above, the proposed clearing may be at variance to this Principle.

Methodology

References:
DBCA (2007-)
DER (2017)

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

Comments

Proposed clearing may be at variance to this Principle

According to available datasets, no rare flora species have been recorded within the local area (10 kilometre radius) however one rare flora, recorded 12 kilometers from the application area is known from the same soil and vegetation types as occur within the application area. This species is a rhizomatous perennial herd and is known from well-watered sites. All known populations of this species occur in long undisturbed sites with three of these populations being within road reserves. Sandy soils in heath communities within the application area

are considered to be suitable habitat for this species (Hopper et al., 1990).

The rare flora species is known from 13 populations, 3 which are within road reserves (with 6 of 13 records historical prior to 2004). It is also listed as Endangered under the EPBC Act. It is noted that the DRF has a range of approximately 400km.

The former Department of Parks and Wildlife (**Parks and Wildlife**) advised that the road verge is typically in excellent condition and recommended a flora survey (Parks and Wildlife, 2017).

Given that the application area is likely to contain suitable habitat for this species of rare flora the proposed clearing may be at variance to this principle.

A flora survey, conducted by a suitably qualified person, would determine the presence or absence of rare flora within the application area, and the extent of impacts as a result of the proposed clearing.

Methodology

References:
Hopper et al. (1990)
Parks and Wildlife (2017)

GIS Database:
SAC Bio datasets – Accessed March 2017

(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

Proposed clearing may be at variance to this Principle
According to available datasets, no State-listed TECs have been mapped within the local area (10 kilometre radius).

Noting the composition and condition of the vegetation within the application area, the application area may be representative of the Commonwealth-listed 'Proteaceae dominated kwongkan shrublands of the southeast coastal floristic province of Western Australia' TEC, listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and listed as a Priority 3 ecological community by the former Parks and Wildlife.

The former Parks and Wildlife advised that an appropriately timed flora and vegetation survey is required to determine if, and how much of, the application area is representative of this TEC (Parks and Wildlife, 2017).

Given the above, the proposed clearing may be at variance to this Principle.

A vegetation survey conducted by a suitably qualified person would determine the presence or absence of a TEC within the application area, and the extent of impacts as a result of the proposed clearing.

Methodology

References:
Parks and Wildlife (2017)

GIS Database:
SAC Bio datasets – Accessed March 2017

(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

Proposed clearing is not likely to be at variance to this Principle
The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

As indicated in Table 1, the current extents of native vegetation within the Mallee bioregion, Shire of Ravensthorpe and represented by Beard vegetation association 519 are above the minimum 30 per cent representation threshold.

The local area (10 kilometre radius) retains approximately 34 per cent (approximately 11,119 hectares) of vegetation cover, and the application area represents approximately 0.01 per cent of this current extent.

The application area may comprise a high level of biological diversity, may comprise significant habitat for indigenous fauna including Carnaby's cockatoo, and may contain a TEC. The application area is located within the Lake Magenta-King Lakes macro ecological corridor.

Noting the condition of the vegetation within the application area, the extent of vegetation cover in the local area and the presence of adjacent UCL, the application area is not likely to comprise a significant remnant of native vegetation in area that has been extensively cleared.

The proposed clearing is not likely to be at variance to this Principle.

Table 1: Vegetation extents

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Parks and Wildlife Managed Lands	
				Extent (ha)	Current (%)
IBRA Bioregion*					
Mallee	7,395,894	4,181,002	56.53	1,332,934	30.83
Local Government Authority*					
Shire of Ravensthorpe	982,194	605,474	61.55	196,451	31.95
Beard Vegetation Association in Bioregion*					
519	2,100,313	1,248,661	59.45	227,798	18.09

Methodology

References:
Commonwealth of Australia (2001)
*Government of Western Australia (2016)

GIS Databases:
Imagery
Pre-European Vegetation

(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

Proposed clearing is not likely to be at variance to this Principle

According to available datasets, no mapped watercourses or wetlands intersect the application area.

The DER site inspection identified a small number of reeds within the application area, however no further evidence of riparian vegetation was noted (DER, 2017).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:
DER (2017)

GIS Databases:
Geomorphic Wetlands
Hydrography, linear
Hydrography, hierachy

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

Comments

Proposed clearing is not likely to be at variance to this Principle

The mapped soils within the application area are described as gently undulating pediments with narrow ironstone ridges; some swamps and lakes: chief soils are hard, and sandy, alkaline yellow and yellow mottled soils with acidic clayey materials common at depths of about three feet (Northcote et al., 1980). Noting the purpose of the proposed clearing, it is likely that the application area is within the ironstone ridge sections of the mapped soil types.

According to available datasets, the land degradation risks for these mapped soils types are:

- 30-50% of map unit has a high subsurface acidification risk or is presently acid;
- 30-50% of map unit has a high water repellence risk;
- 30-50% of map unit has a high to extreme wind erosion risk;
- 10-30% of the map unit has a high subsurface compaction risk;
- 3-10% of map unit has a moderate to high salinity risk or is presently saline; and
- all other land degradation risks are below three per cent.

Mechanical clearing may increase the risk of subsurface acidification, water repellence, and wind erosion. Potential impacts inside and outside the application area as a result of the proposed clearing may be minimised through staged clearing and revegetation of the application area.

Noting the size of the application area, it is unlikely that the proposed clearing will cause appreciable land degradation.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:
Northcote et al (1980)

GIS Databases:
Annual Rainfall, Statewide
Soils, Statewide
Topography

(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

Proposed clearing is not likely to be at variance to this Principle

According to available datasets, a Department of Agriculture and Food WA heritage site (being an agreement to reserve or conservation covenant under the *Soil and Land Conservation Act 1945*) is located approximately 1.6 kilometres south east of the application area. Given the distance to the DAFWA heritage site, is it unlikely that the proposed clearing will impact on the environmental values of this conservation area.

As discussed under Principle (a), the application area, adjoining remnant vegetation retained within the road reserve, and remnant vegetation retained within UCL, are connected to the Lake Magenta Nature Reserve (approximately 30 kilometres west of the application area).

Given the distance to the DAFWA heritage site and the extent of native vegetation between the application area and Lake Magenta Nature Reserve, is it unlikely that the proposed clearing will impact on the environmental values of these conservation areas.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

GIS Databases:
DBCA Tenure

(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

Proposed clearing is not likely to be at variance to this Principle

As discussed under Principle (f), no mapped watercourses or wetlands intersect the application area, and the DER site inspection identified a small number of reeds within the application area however no further evidence of riparian vegetation was noted (DER, 2017). The proposed clearing is not likely to cause deterioration in the quality of surface water entering watercourses.

Groundwater salinity within the application area is mapped between 14,000-35,000 milligrams per litre (measured as total dissolved solids), which is considered to be high. Noting the condition of the vegetation within the application area, the linear shape of the application area and the extent of the proposed clearing, the proposed clearing is not likely to cause deterioration in the quality of underground water or local aquifer.

As discussed under Principle (g), mechanical clearing increases the risk of subsurface acidification, water repellence, and wind erosion, which may cause deterioration in the quality of surface or underground water. Potential impacts as a result of the proposed clearing may be minimised through staged clearing and revegetation.

Noting the size of the application area, it is unlikely that the proposed clearing will cause deterioration in the quality of surface or underground water.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:
DER (2017)

GIS Databases:
Hydrography, linear
Hydrography, hierachy
Geomorphic Wetlands
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

Proposed clearing is not likely to be at variance to this Principle

The mapped soils within the application area are dominated by highly permeable gravel and yellow sands. Noting this and the absence of watercourses or wetlands within the application area, the proposed clearing is not likely to increase the incidence or intensity of flooding.

The proposed clearing is not likely to be at variance to this Principle.

Methodology

GIS Databases:

Annual Rainfall, Statewide
Soils, Statewide

Planning instruments and other relevant matters.

Comments The application is to clear 1.48 hectares of native vegetation within West River Road reserve (PIN 11634148), West Fitzgerald, for the purpose of gravel extraction.

The application was advertised online on the 24 February 2017 and in *The West Australian* newspaper on 27 February 2017 by the Department of Water and Environmental Regulation inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

The application area is managed as a public road by the Shire of Ravensthorpe. The application area has no zone under the local town planning scheme.

On 16 June 2017, a Delegated Officer wrote to the applicant advising of the environmental impacts identified in the preliminary assessment and that flora and vegetation surveys would be required to be undertaken and invited the applicant to provide additional advice addressing the matters raised.

On 17 July 2017 the Shire of Ravensthorpe advised that they are not willing to conduct a flora survey of the site at this time but that should clearing be granted, the Shire plans to undertake a staged approach to clearing and rehabilitation of the area under application. The assessment of the potential impact is unable to be fully determined without a survey and as such a clearing permit cannot be given until environmental values are known and all efforts to avoid and minimise impacts have been considered.

Methodology GIS Databases:
Town Planning Scheme
Cadastre

4. References

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Department of Environment and Conservation (DEC) (2011) Invasive Plant Prioritisation, Department of Environment and Conversation, Perth.

Department of Biodiversity Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dpaw.wa.gov.au/. Accessed March 2017.

Department of Parks and Wildlife (Parks and Wildlife) (2017) Advice provided to the Department of Environment Regulation regarding clearing permit application CPS 7463/1 (DWER ref A1400393).

Department of Environment Regulation (DER) (2017) Site inspection report for CPS 7463/1, 22 February 2017 (DWER Ref A1413630)

Government of Western Australia (2016). 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, Perth.

Hopper, S.D., van Leeuwen, S., Brown, A.P., and Patrick, S.J. (1990). Western Australia's Endangered Flora and other plants under consideration for declaration. Perth, Western Australia: Department of Conservation and Land Management.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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