Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2007/1
Permit type: Area Permit

1.2. Proponent details

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

1.3. Property details

Property: LOT 1363 ON PLAN 186050 (RAVENSTHORPE 6346)
Local Government Area: Shire Of Ravensthorpe
Colloquial name: Sewerage/sanitary depot as per management order RES7380.

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
6		Mechanical Removal	Miscellaneous

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 acssociation 516: Shrublands; mallee scrub, black marlock.	Images from the Geographical Information Sysem (GIS) showed that the vegetation witin the area under application is in good condition (keighery 1994) for the most part, yet is considerably more degraded on a small section in the south-east corner of the area.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The condition and description of the vegetation was obtained via the use of aerial mappping systems and regional advice

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 within the area under application is in Good condition (keighery 1994) on the majority of the area, yet is considerably more degraded on a small section on the south-east corner of the area. As well as the 3 Declared Rare Flora (DRF) there are 4 Priority one species (P1) , 6 priority two (P2) species, 3 priority three species (P3) and 9 priority four species (P4) that reside within the local area (10km radius).

The area under application resides within the Esperance Sand Plains Bioregion, more specifically the Fiztgerald subregion (ESP1). This subregion has had approximately 50% of its native vegetation cleared largely for the purpose of agriculture (CALM 2002), yet the vegetation complex present on the application area (516) is well represnted throughout the bioregion, subregion and shire. There has been extensive clearing directly to the west of the area under application, the 6 ha of proposed cleared land is unlikely to represent an area of outstanding biodiversity due to its size and proximity to other well vegetated areas of land.

Methodology

GIS Datasets:
-- Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
CALM (2002)

(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 proposed area to be cleared has 2 Declared Threatened species within the local area (10km radius); the

Leipoa ocellate (Mallee fowl) and the Myrmecobius fasciatus (Numbat). The area under application may be an adequate site for the mallefowls to construct nests as they require sufficient leaf litter (NatureBase 2008) which is present in the proposed cleared area. In regards to the Numbat, it is not likely to be sufficient as specific habitat as they require hollow trees for shelter, yet the scrub does incorporate a habitat in which they may frequent.

There are also three Priority four (P4) species located in the local area, Pseudomys occidentalis (western mouse), Macropus irma (Western-Brush Wallaby and Psophodes nigrogularis oberon (Western whipbird); and one Priority 1 (P1) species, Lerista viduata.

Both the Western mouse and the Western whipbird may use the proposed area to be cleared as habitat as these species prefer dense areas of scrub for shelter such as the mallee scrub of the proposed area to be cleared, yet due to the large amount of surrounding vegetation, it is considered unlikely that the proposed area to be cleared is significant as a habitat for local fauna

Methodology

GIS Datasets:
- Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
- Fauna

www.NatureBase.net (2008)

(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 3 Declared Rare Flora (DRF) species within the local area (10km radius). Marinthus mollis, Marianthus villous and Daviesia megacalyx (6 occurances). Due to the size of the area under application and the large areas of surrounding vegetation still remaining, as well as the area having both different soil and vegetation complexes to all DRF in the local area, it is considered unlikely that the proposed cleared area is a significant habitat for DRF.

Methodology

GIS Datasets:
- Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
- DEFL
- Soils, Statewide
- Pre-European Vegetation

(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 at variance to this Principle

There are no Threatened Ecological Communities (TECs) within the local area (10km radius) or on the area under application, the proposed clearing is not at variance to this principle.

Methodology

GIS Datasets:
- Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
- Threatened Ecological Communities
- Priority Ecological Communities

(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

The proposed cleared area is comprised of Beard Vegetation Type 516 and according to Shepherd et al. (2006) this vegetation type is well represented in the Bioregion, subregion and Shire. Within the previously mentioned categories, all records indicate that the native vegetation remaining is not below the 30% threshold as outlined by the National Objectives and Targets for Biodiversity Conservation 2001-2005.

The area under application is situated in an agricultural area which the EPA has outlined in the Position Statement No2, that it is unreasonable to expect to be able to continue to clear native vegetation from land within the agricultural area other that relatively small areas and where alternative mechanisms for protecting biodiversity are addressed (EPA 2000). Given the size of the proposed area to be cleared and the amount of surrounding vegetation, it is not likely to be a remnant in an already cleared area and is not likely to be at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)
IBRA Bioregion:	2899949	1482950	51.1
IBRA Subregion (Fitzgerald)	1570676	842369	53.6
Shire (LGA)	1343628	963739	71.7
Beard Vegetation Association (516)	607400	337440	55.6
516 (within shire)	153597	129174	84.1

(Sheperd et al. 2006)

Methodology GIS Datasets:
- Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
- Pre-European Vegetation

Shepherd et al. (2006)
EPA (2000)

(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 watercourses or wetlands within the local area (10km radius), therefore the native vegetation within the proposed area to be cleared is not at variance to this principle.

Methodology GIS Datasets:
- Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
- South Coast Significant wetlands
- Rivers
- Calm Managed Lands and Waters

(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**
Rainfall is approximately 500mm/yr with the local area consisting of soils of undulating to hilly ridge and slope topography with flat to gently sloping crests to the ridges; rock outcrops are common on slopes: chief soils are hard alkaline yellow mottled and red mottled soils and on the valley side slopes. Due to the size and topography of the area under application, and the surrounding vegetation, it is considered unlikely that the clearing of 6 ha of native vegetation will cause any appreciable land degradation.

Methodology GIS Datasets:
- Soils, statewide
- Rainfall, Mean Annual

(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**
There is only one Nature reserve within the local area (10km radius), Overshot Hill, which is 8.4km North West of the proposed cleared area, there is no linkage between the proposed cleared area and the reserve as little to no native vegetation remains between them. The clearing of the area under application is unlikely to impact on

the environmental values of any conservation areas.

Methodology GIS Datasets:
- Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
- Calm Managed Lands and Waters

(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

While there is limited long-term data available for this area, the depth to groundwater varies from less than 2 m to greater than 20 m and the rate of rise is currently 0.1 - 0.2 m/yr (Lillicrap 2004). Groundwater salinity on the proposed area to be cleared is 7000-14000 TDS mg/L.

The Ravensthorpe Zone (224) within the Fiztgerald bioregion has a moderate risk of shallow watertables occurring and the risk will remain moderate for the next 20 years (Lillicrap 2004). Given the above data, and taking into account the size of the area under application, it is unlikely that the proposed clearing will impact on any underground or surface water catchments.

Methodology GIS Datasets:
- Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
- Hydrographic Catchments - Catchments
- Groundwater Salinity, Statewide
- Rivers

Lillicrap (2004)

(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

Rainfall in the area under application is 500 mm/yr, which is equal to the evaporation rate, the rocks are of low permeability, with undulating to hilly ridges and sloped topography of between 250 - 255m present; flat to gently sloping crests to the ridges; rock outcrops are common on slopes: chief soils are hard alkaline yellow mottled and red mottled. Due to the size of the area under application and the remaining vegetation on the east and south of the application area, it is considered unlikely that the proposed clearing will result in the increased risk of flood peak height or duration.

Methodology GIS Datasets:
- Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
- Hydrogeology, Statewide
- Rainfall Mean Annual

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 and no comment has been recieved on this matter.

An industry Licence has been approved and is valid

Methodology GIS Datasets:
Ravensthorpe 1.4m Orthomosaic DLI 02
- Moolyall 1.4m Orthomosaic DLI 04
- Cocanerup 1.4m Orthomosaic DLI 94
- Native Title Claims
- Aboriginal Significant Sites

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Miscellaneous	Mechanical	6	The assessment against clearing for the purpose of constructing putrescible waste cells in the refuse

Removal	area has found: - Principles (d) & (f) are not at variance - All other Principles are not likely to be at variance

5. References

Department of Conservation and Land Management (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.

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

Lillicrap (2004) Groundwater trends in the Fitzgerald Biosphere sub-region, Department of Agriculture Western Australia.

National Objectives and Targets for Biodiversity Conservation2001-2005, (2001), Canberra.

Numbat (Myrmecobius fasciatus) Information sheet cited at: www.naturebase.net, accessed January 2008

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001a) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia (updated 2006).

Western mouse (Pseudomys occidentalis) Information sheet cited at: www.naturebase.net, accessed January 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)