Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2106/1

Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: LOT 7857 ON PLAN 128250 (BROOKTON 6306)
ROAD RESERVE (BROOKTON 6306)

Local Government Area: Shire Of Brookton

Colloquial name: Rubbish Disposal Site

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.53		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 Association: 5 - Medium Woodland; wandoo & powderbark (E. accedens) (Shepherd 2006)	The proposal is to clear 0.53 ha of native vegetation for the purpose of erecting a fence at the Brookton Waste Disposal site in order to secure the site and to prevent the drift of rubbish into neighbouring native vegetation. In addition, the proposal also incorporates the clearing of 0.08 ha of Dryandra sessilis regrowth. The vegetation under application comprises Eucalyptus accedens and Eucalyptus wandoo over an understorey comprising Gastrolobium spinosum, Dryandra sessilis, Dryandra nobilis, Acacia pulchella and Dampiera species. The vegetation ranged from completely degraded to excellent condition, with a good condition average overall. The proposed fence line extends for a distance of approximately 1500 metres, where the vegetation in the northwest portion was considered to be in excellent condition and the southeast portion was considered to be in good condition. In contrast, the vegetation in the north-eastern portion was considered to be in	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Vegetation clearing description based on DEC site visit on 12/10/07. The condition of the vegetation ranged from completely degraded to degraded to good condition, with an average of good condition overall.

degraded condition and the south western portion was considered to be completely degraded. In addition, the 0.08ha regrowth of Dryandra sessilis was considered to be in good condition, with bare patches of bare earth in the foreground which was completely degraded.

The southern portion of both the proposed fence line and southern area of Dryandra sessilis regrowth are contained within the buffer of a Environmentally Sensitive Area (ID. 2176) of the Declared Rare Flora species

Lasiopetalum rotundifolium.

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 area under application is located within a landscape that has been extensively cleared for agriculture. A site visit by DEC officers on the 12 October 2007 found that the vegetation under application is in good condition overall, with the vegetation comprising Eucalyptus accedens and E. wandoo over an understorey of Gastrolobium spinosum, Dryandra sessilis, Dryandra nobilis, Acacia pulchella and Dampiera species. Information provided by the Shire of Brookton (TRIM ref: Doc 37616 and TRIM ref: DOC 38335) identified numerous plant species, including the Declared Rare Flora (DRF) Lasiopetalum rotundifolium (Round-leaf lasiopetalum) and Thomasia montana (Hill thomasia) within the Brookton Waste Disposal site.

A Desktop assessment has identified that the southern portion of the area under application is located within the ESA buffer of the DRF species L. rotundifolium, with the identified DRF species mapped approximately 16 metres north of the proposed clearing. DEC (2007) advise that the DRF species L. rotundifolium is likely to be directly affected by the proposed clearing and recommend that a flora survey be undertaken and a permit to take DRF is applied for, before commencing any clearing. The vegetation under application also has the potential to support a range of native fauna species, including potential breeding habitat in mature Eucalyptus trees for the Carnaby's Black-Cockatoo (Endangered).

Given that the vegetation under application is in good condition, has the potential to provide significant habitat for a range of fauna species and that the southern portion of the area under application is located within a ESA buffer for the DRF species L. rotundifolium; and may include locally significant DRF flora species, it is considered that the vegetation under application may represent an area of high biological diversity.

Methodology

DEC site visit - 12/10/07
Brown et al (1998)
DEC (2007)
GIS Databases:
Interim Biogeographic Regionalisation of Australia - EA 18/10/00
Clearing Regulations - Environmentally Sensitive Areas - DOE 30/5/05
EPA Position Paper No 2 Agriculture Region - DEP 12/00

(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 at variance to this Principle

The area under application is located within the distribution range of the Carnaby's Black-Cockatoo (Calyptorhynchus latirostris), (EPBC Act Endangered) which breed in the Wheatbelt, nesting in large hollows of Eucalyptus wandoo and other Eucalypt species (Burbidge, 2004).

DEC (2007) advise that mature powderbark wandoo and wandoo trees with hollows have been identified within the Tip site reserve. The vegetation under application includes mature Eucalyptus spp., some of which are considered to be of hollow-bearing age, and therefore may contain hollows with the potential to be utilised by fauna species such as the threatened Carnaby's Black Cockatoo and other fauna such as possums.

In addition, the Carnaby's Black-Cockatoo are likely to forage on the seeds and nectar from the flowers of Dryandra spp., Eucalyptus spp., Grevillea spp. and Hakea spp. (DEC 2006). The vegetation under application includes these species which may be utilised by these foraging birds.

The DEC Priority 5 species Quenda (Isoodon obesulus fusciventer) has been recorded just outside the local area (6km radius). Whilst no visible Quenda diggings were observed during the site visit, the vegetation under application includes some understorey that may have some habitat potential for ground dwelling fauna such as the Quenda.

The vegetation under application is part of a large vegetated remnant (38ha) which is contained within a landscape that has been extensively cleared for agriculture and has been isolated from local conservation reserves. It is therefore considered that the vegetation under application comprises part of a significant habitat for fauna.

Given that the mature Eucalyptus trees under application have the potential to contain habitat hollows, and given that the vegetation under application comprises part of a significant habitat for indigenous fauna species, it is therefore considered that the proposed clearing is at variance to this Principle.

To mitigate any loss of habitat within the area under application a condition will be imposed on the permit to avoid habitat trees.

Methodology

DEC site visit - 12/10/07
Burbidge (2004)
DEC (2006)
(DEC 2007)
GIS Databases:
SAC BIO Datasets } accessed 15/10/07

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

Comments

Proposal is at variance to this Principle

There are 5 known records of two species of Declared Rare Flora (DRF) Lasiopetalum rotundifolium (Round-leaf lasiopetalum) and Thomasia montana (Hill thomasia) within a 5km radius of the areas under application. Of the identified DRF species, there are four known occurrences of Lasiopetalum rotundifolium, with the closest being located immediately adjacent to the area under application and one known population of T.montana which is located approximately 400 metres south of the applied area.

The only known populations of L.rotundifolium have been recorded near the towns of New Norcia and Brookton and this species is considered to be Critically Endangered (Brown et al, 1998). According to Brown, et al(1998) "in Brookton, L.rotundifolium generally grows in open wandoo woodlands on the slopes of hills, in gravely brown clayey sand." L. rotundifolium has been mapped in continuous vegetation, situated approximately 16 metres north of the southern area to be cleared. In addition, the southern portion of the proposed fence line and the southern portion of the area of Dryandra sessilis regrowth, fall within the ESA buffer of this DRF species.

DRF species can be site specific and are generally vulnerable to a range of potential disturbances. Brown et al (1998) outlines the major threats facing DRF species in Western Australia as "clearing for firebreaks and road maintenance, weed invasion, salinity, decimation by disease, grazing by feral herbivores, indiscriminate herbicide application, inappropriate fire regimes and lack of suitable pollinators resulting in poor or low seed set." The ESA buffer is designed to maintain suitable habitat around DRF and insulate these species from the threats outlined above. DEC (2007) advise that the DRF species L. rotundifolium is likely to be directly affected by the proposed clearing and that a flora survey should be undertaken prior to the commencement of any clearing.

Thomasia montana is generally found on rocky granite outcrops and on the slopes of lateritic hills, in gravely loamy soils (Western Australian Herbarium, 1998) and has been identified as a plant endemic to the Brookton Waste Disposal site in information provided by the Shire of Brookton (TRIM ref: DOC 37616).

Given the close proximity of these DRF which are found within the same vegetation complex and soil association as the area under application and that the southern portion of the applied area is located within a ESA buffer, it is therefore considered that the proposal is at variance to this principle.

To ensure no DRF are present within the area under application, a condition will be imposed on the permit if clearing is approved, to ensure surveys are undertaken by a flora specialist to identify the presence of any DRF within the areas proposed for clearing detailed above.

Methodology

DEC site visit - 12/10/07
Brown et al (1998)
DEC (2007)
Western Australian Herbarium (1998)

GIS Databases:
Clearing Regulations - Environmentally Sensitive Areas - DOE 30/5/05
SAC BIO Datasets - accessed 11/10/07

(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

There are no known occurrences of Threatened Ecological Communities (TEC) within a 5km radius of the area under application. The closest TEC is located approximately 18km north of the applied area and is associated with a perched wetland with extensive stands of Casuarina obesa.

Given that the vegetation under application comprises Eucalyptus wandoo woodlands associated with ironstone gravel and sandy soils, and that no wetland vegetation was observed during the site inspection, it is not considered likely that the vegetation under application comprises, or is necessary for the maintenance of, a TEC.

Methodology

DEC site visit - 12/10/07
GIS Databases:
SAC BIO Datasets - accessed on 15/10/07.
Soils, Statewide - DA 11/99

(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 at variance to this Principle

The vegetation under application is described as Beard vegetation association 5, which has 44.7% of pre-European extent remaining (Shepherd 2006) and which is considered to be of a 'depleted' status for biodiversity conservation (Department of Natural Resources and Environment, 2002; EPA, 2006). The vegetation under application is also within the Avon Wheatbelt IBRA Region of which there is 16% of pre-European vegetation remaining. In addition, there is 15.6% of pre-European extent remaining in the Shire of Brookton.

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present pre-European settlement. Given that the vegetation association of the local area is below the minimum threshold of 30% representation in an extensively cleared landscape, and is likely to support DRF and Threatened Fauna Species, the proposal is considered to be at variance to this Principle.

A condition to offset the values of the vegetation will be imposed on a permit if clearing is approved.

	Pre-European area (ha)	Current extent (ha)		Remaining %
	Conservation status****	% in reserves/DEC- managed land		
Avon Wheatbelt	9,578,995	1,536,296	16%**	Vulnerable
Brookton	161,283	25,207	15.6&	Vulnerable
Beard vegetation associations				
5				
51,732				
23,105				
44.7%**				
Depleted				

* (Shepherd et al. 2001)
** (Shepherd 2006)
***(EPA, 2006)
****(Department of Natural Resources and Environment 2002)

Methodology

Department of Natural Resources and Environment (2002)
EPA (2006)
Shepherd (2006)
GIS Databases:
Pre-European Vegetation - DA 01/01

(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

There are no wetlands recorded within a 5km radius of the area under application. The closest watercourse is the Avon River South which is located approximately 3.6km east of the area under application.

Given the distance to the nearest watercourse, and that no wetland dependent vegetation was observed during the site visit, the vegetation under application is not considered likely to include vegetation growing in, or in association with, an environment associated with a watercourse or wetland.

Methodology DEC site visit - 12/10/07
GIS Databases:
Hydrography, linear (hierarchy) - DOW

(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**
Soils within the area under application are described as ironstone gravels and yellow mottled, sandy soils which generally have a low risk of land degradation including wind erosion and water logging (State of Western Australia 2005). The area under application is also associated with a nil to low risk of salinity and a nil risk of acid sulphate soils.

The main land degradation risk associated with the removal of vegetation on the identified soil type is considered to be water erosion. However, given the proposal is for the construction of a fence line over a narrow, linear area and the limited size of the area of the clearing (0.53ha), it is not considered likely that the proposed clearing would result in appreciable land degradation.

Methodology State of Western Australia
GIS Databases:
Acid Sulphate Soil Risk Map, Swan Coastal Plain - DEC
Salinity Mapping LM 25m - DOLA 00
Soils, Statewide - DA 11/99

(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 six areas reserved for conservation purposes within a 15km radius of the area under application, with the closest being Boyagin Nature Reserve which is located approximately 5.7km southwest of the applied area.

The area under application is situated in a landscape which has been extensively cleared for agriculture and has been isolated from local conservation reserves, it is therefore not considered likely to provide a corridor for movement of fauna to these reserves.

Given the distance and the lack of connectivity to these reserves, it is not considered likely that the proposed clearing would have a direct or indirect impact on the environmental values of any nearby conservation reserve.

Methodology GIS Datasets:
CALM Managed Lands and Waters - CALM 1/07/05

(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 nearest watercourse is the Avon River South, which is located approximately 3.6km to the east of the area under application. The applied area is within the Swan Avon Catchment, but is not located within a Public Drinking Water Source Area. In addition, the area under application has a nil to low risk of salinity and a nil risk of acid sulphate soils. Given that there is a low to nil risk of salinity and acid sulphate soils, it is not considered likely that the proposed clearing would cause salinity or ASS resulting in the deterioration in the quality of underground water.

Soils within the area under application generally have a low risk of land degradation, however the removal of vegetation from the gravely soils may result in water erosion. This is likely to be minimal given the area under application is limited to 0.53ha, within a narrow, linear strip. Given this, and the distance to the nearest watercourse, it is not considered likely that the proposed clearing would cause water erosion resulting in a deterioration in surface water quality.

Methodology DEC site visit - 12/10/07
GIS Databases:
Acid Sulphate Soil Risk Map, Swan Coastal Plain - DEC
Hydrographic Catchments - Catchments - DOW
Hydrography, linear (hierarchy) - DOW
Public Drinking Water Source Areas (PDWSAs) - DOW
Salinity Mapping LM 25m - DOLA 00

(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 area under application is located approximately 3.6km east of the Avon River South. Given the small size of the area under application and the relatively narrow area of clearing over 1500 metres, it is not considered likely that the proposed removal of vegetation would impact on peak flood height or duration.

Methodology DEC site visit - 12/10/07
GIS Database:
Hydrography, linear (hierarchy) - DOW

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

Comments

The area under application is located within a Native Title Claim area. The applied area is contained within existing rubbish disposal site that is managed by, and vested with the Shire of Brookton for this purpose. Therefore the clearing as proposed should not fall under the future acts process under the Native Title Act 1993.

DEC (Great Southern District, 2007) advise that the area under application is within the 500-600mm rainfall zone and may be susceptible to Phytophthora cinnamonii and recommends that all earthmoving machinery should be free of soil and plant propagules prior to entry and after completion of work to prevent the introduction or spread of this disease.

Methodology GIS Databases:
Native Title Claims - DLI

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Miscellaneous	Mechanical Removal	0.53	The assessable criteria have been addressed and the propposed clearing is at variance to principles (a); (b); (c) and (e).

5. References

Brown, A., Thomson-Dans, C. and Marchant, N. (1998). Western Australia's Threatened Flora. Department of Conservation and Land Management. Perth, Western Australia.

Burbidge, A. (2004) Threatened Animals of Western Australia, Department of Conservation and Land Management, Perth, Western Australia.

DEC (2006) Naturebase Fauna Species Profile, Carnaby's Black-Cockatoohttp://www.naturebase.net/plants_animals/birds_cockatoo.html.accessed on 13/04/2007

DEC (2007) Advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, received 15/11/07. Great Southern District, Department of Environment and Conservation, Western Australia (TRIM Ref: DOC39675).

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.

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 (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.

Shire of Brookton (2007) Photocopy of photos of 14 plant species endemic to the Brookton Waste Disposal site (TRIM ref: DOC 37616).

Site Visit 12/10/2007, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC38438.

Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. http://florabase.calm.wa.gov.au/ Accessed on 11/10/2007.

Williams, Judy (2007) A General Flora Species list of the Brookton Waste Disposal Site (TRIM ref: DOC 38335).

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)