Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2405/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Titan Nominees Pty Ltd**

1.3. Property details

Property: LOT 4 ON PLAN 15982 (BRAND HWY, RED GULLY 6503)
Local Government Area: Shire Of Gingin
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
17		Mechanical Removal	Grazing & Pasture

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 949: Low woodland; Banksia. Heddle vegetation complex: Reagan complex: Vegetation ranges from low open woodland of Banksia species E. todtiana to closed heath depending on the depth of soil. Coonambidgee complex: Vegetation ranges from a low open forest and low woodland of E. todtiana - B. attenuata - B. menziesii - B. ilicifolia with localised admixtures of B. prionotes to an open woodland of E. calophylla - Banksia species	The applied area of 17 hectares is located within Lot 4 (412ha) on plan 15982. The proposal is to clear 17 hectares of native vegetation for the purpose of creating a cattle holding yard. The vegetation under application has been cleared within the past two years. Whilst the area of vegetation has been impacted by this clearing, strong regeneration was evident across the majority of the site, with minimal weed invasion present. In addition, the eastern portion under application comprises gravely soils which has previously been used for gravel extraction. This area has exposed surfaces and limited regrowth and is considered to be in a degraded condition. Regrowth within the majority of the applied area comprised native species such as Eucalyptus todtiana, Banksia spp, Gyrostemon ramulosus, Macrozamia riedlei, Xanthorrhoea preissii, Jacksonia floribunda, Stirlingia latifolia, Synaphea spp, Calytrix spp, Boronia ramosa, Ptilotus	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Vegetation clearing description is based on two site visits conducted by DEC officers on 11/04/2008 and 10/06/2008.

polystachyus, Acacia pulchella, Adenanthos spp, Scaevola spp, Hovea spp, Calectasia spp, Anigozanthos spp, Kennedia spp, Hemiandra spp, Daviesia spp, Melaleuca spp and Drosera species.

Given the overall amount of regeneration and level of biological diversity, the area under application was assessed as being in good condition.

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 has been cleared within the past two years. The vegetation within the applied area is regrowth, with an average height of 50cm (DEC site visit, 2008).

During a site inspection by DEC officers on the 10 June 2008, strong regeneration was evident across the majority of the site, with minimal weed invasion present. The regrowth comprised Eucalyptus todtiana, Banksia spp, Melaleuca spp, Gyrostemon ramulosus, Macrozamia riedlei, Acacia pulchella, Adenanthos cygnorum, Daviesia spp, Hibbertia cuneiformis, Calectasia spp, Ptilotus polystachyus, Xanthorrhoea preissii, Jacksonia floribunda, Stirlingia latifolia, Boronia ramosa, Mesomelaena spp, Synaphea spp, Dampiera spp, Gastrolobium spp, Hovea spp, Anigozanthos spp, Conostylis setigera, Hemiandra spp, Kennedia spp, Conostylis spp. and Drosera species.

Given the similar composition and structure of the vegetation within the applied area to remnant vegetation observed within Lot 4 which is in excellent condition, the vegetation under application may comprise a high level of biological diversity and the proposed clearing may be at variance to this Principle.

Methodology

DEC Site visit - 11/04/08 and 10/06/08

(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 may be at variance to this Principle

There are six records of five fauna species of conservation significance within the local area (10km radius) including:

- Bee (Leioproctus contrarius) (P4) located approximately 4km southeast.
- Carnaby's Black-Cockatoo (Calyptorhynchus latirostris) (EN) located approximately 2.2km northeast.
- Western Brush Wallaby (Macropus irma) (P4) located approximately 3.8km northwest
- Chuditch (Dasyurus geoffroii) (VU) located approximately 3.8km north.
- Water-Rat (Hydromys chrysogaster) (P4) located approximately 4.6km northeast.

The area under application has been cleared within the last two years. The vegetation within the applied area is regrowth, with an average height of around 50cm which is likely to have some habitat potential for ground dwelling fauna such as the Quenda. However, in the short term, the immature regrowth is unlikely to provide suitable habitat for the Chuditch and Western Brush Wallaby.

The area under application is located within the distribution range of the Carnaby's Black-Cockatoo (Calyptorhynchus latirostris) (EPBC Act Endangered), which nest in large hollows of Eucalyptus trees and forage on the seeds and nectar from the flowers of Banksia spp., Eucalyptus spp. and Hakea species (Burbidge 2004). Given the immature size of the regrowth and that no trees of hollow bearing age were observed during the DEC site visit, the vegetation under application is not considered likely to provide suitable foraging and nesting habitat for the Carnaby's Black-Cockatoo.

The Water Rat occupies habitat in the vicinity of permanent water, with the closest recorded sighting of this species approximately 4.6km northeast of the applied area near Moore River. Given the absence of wetland vegetation in the area under application, it is not considered likely to provide suitable habitat for the Water Rat.

Although the vegetation within the applied area is immature regrowth it could provide some foraging habitat for the native Bee. Given that there is strong regeneration evident across the majority of the site, comprising a diverse array of species and with minimal weed invasion present, the vegetation under appliction is likely to provide significant habitat into the future.

It is therefore considered that the proposed clearing may be at variance to this Principle.

Methodology

Burbidge (2004)
DEC Site visit - 11/04/08 and 10/06/08
DEC (2008)
GIS Databases:
SAC Biodata sets - accessed on 9/06/2008

(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

Within the local area (10km radius) there are three recorded populations of rare flora the closest of which are:

- Paracaleana dixonii located approximately 1.6km south of the applied area
- Drakaea elastica located approximately 8.4km southeast of the applied area

Of the identified rare flora species, P. dixonii generally grows in grey sands over granite and D. elastica is generally found in white or grey sands in low lying areas adjoining winter-wet swamps (Western Australian Herbarium, 1998). Given that both P. dixonii and D. elastica are found within a different vegetation complex and soil type to the area under application, it is not considered likely that the vegetation under application would include significant habitat for the identified rare flora species.

There are also twenty three known populations of priority flora within a 10km radius of the area under application, the closest Persoonia rudis (P3) is located approximately 1.8km northwest of the applied area. P. rudis is found within the same soil type as the area under application, but within a different vegetation complex to the applied area.

Given that suitable habitat for the rare P. dixonii and D. elastica; and for the priority species P. rudis is not present within the area under application, it is therefore not considered likely that the vegetation under application includes, or is necessary for the continued existence of rare flora.

Methodology

DEC site visit - 11/04/08 & 10/06/08
Western Australian Herbarium (1998)
GIS Database:
SAC BIO datasets 11/06/08
Soils, Statewide DA 11/99

(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 10km radius of the area under application. The closest TEC is located approximately 17.5km south of the applied area and is identified as Species Community Type (SPC) 07 - Herb rich saline shrublands in clay pans.

Given that the vegetation under application comprises regrowth of individual Banksia and Eucalyptus trees and shrubs associated with yellow sandy soils, and given the distance to the nearest TEC, it is not considered likely that the vegetation under application comprises, or is necessary for the maintenance of a TEC.

Methodology

DEC site visit - 11/04/08 and 10/06/08
Western Australian Herbarium (1998)
GIS Database:
SAC Bio datasets accessed on 5/06/08
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 not likely to be at variance to this Principle

Heddle et al. (1980) defines the vegetation under application as Coonambidgee Complex and Reagan Complex of which there is 45.1% and 38% respectively of pre-European extent remaining (EPA 2006). The vegetation under application is also described as Beard vegetation association 949, of which there is 57% of pre-European extent remaining (Shepherd 2006).

The area under application is located within the Shire of Gingin, within which there is 56.3% of pre-European extent remaining; and the local area (~10km radius) has approximately 48% of pre-European vegetation remaining.

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 (Commonwealth of Australia, 2001).

Whilst the area under application has the ability to regenerate back to the same condition as existing remnants found within Lot 4, given that the vegetation representative is above the recommended threshold and given the proximity of conservation reserves in the local area, it is not considered likely that the vegetation under application is significant as a remnant.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In reserves (%)
IBRA Bioregions Swan Coastal Plain*	1,501,456	571, 758	38.1	
Shire of Gingin**	315,560	177,688	56.3	
Local Area (~ 10km radius)	~31,400	~15,318	~48.0	
Heddle Vegetation Complex*** Reagan complex	9,097	3,455	38.0	1.9
Coonambidgee complex 6,272	2,830	45.1	9.4	
Beard Vegetation type:* 949	218,204	124,461	57.0	23.1

Shepherd (2006)*
Shepherd (2001)**
EPA (2006)***

Methodology

- Commonwealth of Australia (2001)
- EPA (2006)
- Shepherd (2006)
- Shepherd (2001)

GIS Databses:

- Heddle Vegetation Complexes DEP 21/06/95
- Interim Biogeographic Regions of Australia EA 18/10/00
- SAC Bio Datasets 14/03/08

(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 numerous wetlands located within a 10km radius of the area under application. The closest wetland is the Moore River National Park Wetland, a Conservation Category Wetland (CCW), which is located approximately 350m southwest of the applied area. In addition, there are numerous EPP Lakes within the local area (10km radius) with the closest located approximately 590m northwest of the area under application.

The nearest watercourse is Whitefield Brook which is located approximately 2.8km south of the area under application. In addition, Moore River and Red Gully Creek are respectively located approximately 3.8km north and 7.8km south of the applied area.

Given the distance to these wetlands and watercourses and given that no wetland 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 - 11/04/08 and 10/06/08
GIS Databases:

EPP, Lakes
Geomorphic wetlands (Mgt Categories)- Swan Coastal Plain DEC
Hydrography, hierachy - DOE 01/02/04

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

Comments

Proposal is at variance to this Principle

Soils within the area under application are described as yellow earthy siliceous sands (Northcote et al, 1968), with the exception of the eastern portion of the applied area which contains ironstone gravels. The applied area is associated with a low to nil risk of salinity and has a nil risk of acid sulphate soils.

The main land degradation risk associated with the removal of vegetation on-site is considered to be salinity, wind erosion, phosphorous export and water erosion. The soils within the applied area are also known to have a low Phosphorous Retention Index (PRI), and it is considered that the proposed clearing of 17 hectares of deep-rooted perennial vegetation is likely to result in increased nutrient loss from the soil profile. Given that the proposed land use is for cattle holding yards, the clearing of native vegetation is unlikely to impact on the export of phosphorous.

DAFWA (2008) advise that the proposed clearing of 17 hectares of native vegetation is likely to result in an increase in groundwater recharge on the property. Although the direct effects of the current proposal to remove a further 17 hectares of native vegetation may not be quanitifiable, further removal of deep rooted perennials will contribute to long term cumulative effects of clearing including rising groundwater levels and resulting in appreciable land degradation in the form of salinity, and soil erosion by wind and water .

Furthermore, evaporation from shallow groundwater seepage will result in the accumulation of surface salt causing land degradation. Higher recharge rates may potentially result in an increasing in groundwater seepage which has previously been observed within the northern portion of the area under application (DAFWA 2008).

The wind erosion potential is due to the sandy nature of the soil and without appropriate vegetation cover, windbreaks or adequate dust suppression on exposed surfaces the proposal may result in appreciable land degradation.

In addition, the removal of vegetation from the gravely soils may result in some water erosion. During the DEC site visit, erosion rills were observed emanating from the eastern portion under application. Given that the applied area has a gradient of 35 metres that slopes in a westerly direction, the proposed clearing may result in an increase in surface water runoff causing erosion gullies and rills.

Given the salinity and wind erosion risk, the proposed clearing is considered likely to lead to appreciable land degradation.

Methodology

DAFWA (2008)
Northecote et al (1968)
DEC site visit - 11/04/08 and 10/06/08
GIS Databases:
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC
Salinity Risk LM 25m - DOLA 00
Soils, Statewide - DA 11/99
Topographic Contours, Statewide

(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 are numerous areas reserved for conservation purposes within a 10km radius of the area under application, the closest being the Moore River National Park Wetland (Conservation Category Wetland) which is located approximately 350m southwest of the applied area and Quinns Hill Nature Reserve (System 6 Reserve) which is located approximately 6.2km to the northeast. In addition, Moore River National Park (also listed on the Register of National Estate and a System 6 Reserve) is located approximately 1.4km south of the applied area.

Given the distance and isolation from the nearest conservation reserve, the proposed clearing is not considered likely to have a direct or indirect impact on the environmental values of any nearby conservation reserves.

Methodology

GIS databases:
CALM Managed Lands and Waters - CALM 1/07/05
Geomorphic wetlands (Mgt Categories) -Swan Coastal Plain DEC
System 6 Conservation Reserves - DEP 06/95

(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 may be at variance to this Principle

The nearest watercourses are Whitefield Brook and Moore River which are respectively located approximately 2.8km south and 3.8km north of the area under application. The applied area is situated within the Moore River Catchment, but is not located within a Public Drinking Water Source Area.

DAFWA (2008) advise that the proposed clearing of 17 hectares of native vegetation is likely to result in an increase in groundwater recharge on site, increasing the risk of salinity. In particular, the removal of vegetation from this sandy upland location may have an impact on recharge of groundwater systems downslope, causing a deterioration in the quality of underground water.

The main land degradation risk associated with the removal of vegetation on the identified gravely soil type is considered to be water erosion. Given that the area under application is located on the middle slopes in the landscape and that erosion rills were observed within the eastern portion of the applied area, it is considered that the proposed clearing may cause water erosion resulting in the deterioration in surface water quality.

Given the above, it is therefore considered that the proposed clearing may be at variance to this Principle.

Methodology

DAFWA (2008)
GIS Databases:
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC
Hydrographic Catchments - Catchments - DOW
Hydrography, linear (hierarchy) - DOE 13/4/05
Public Drinking Water Source Areas (PDWSA's) - DOE 09/08/05
Salinity Mapping LM 25 - DOLA 00
Topographic Contours, Statewide - DOLA 12/09/02

(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 2.8km north of Whitefield Brook and approximately 350 metres northeast of the Moore River National Park Wetland, a Conservation Category Wetland, at an elevation of 90 - 125 metres.

Given the distance to the nearest wetland and watercourse and the high infiltration of the soils on site, it is not considered likely that the proposed removal of vegetation would impact on peak flood height or duration.

Methodology

GIS Databases:
Hydrography, linear - DOE 1/2/04
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DOE 15/9/04
Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The area under application has been cleared within the last two years by the previous property owner.

Lot 4 on Plan 15982 is part of a Native Title Claim however, since it is privately owned the Native Title has been extinguished under the Native Title Act. Therefore the clearing is considered to be a secondary approval and not a future act under the Native Title Act 1993.

The Shire of GinGin advise that the Applicant does not require Planning Approval for grazing purposes.

A submission objecting to the proposed clearing was lodged, stating that the vegetation should be retained due to moisture availability and the risks of phosphate eutrophication and wind erosion. This submission was considered during the assessment.

A submission was received from Titian Pty Ltd (2008) in response to correspondence from DEC dated 31 July 2008. Titian Pty Ltd restated that the 17ha under application had been previously clearing and did not consider that the area under application contained a high level of biodiversity, does not comprise significant habitat and the clearing would not cause further land degradation. It was also stated that 170-200 acre buffer of native vegetation existed along the eastern side of the property parallel to Brand Hwy.

There are no aboriginal sites of significance within the applied area.

Methodolo

GIS Databases:

gy Aboriginal Sites of Significance- DIA 20/03/03
Native Title Claims - DIA
Town Planning Scheme Zones- MFP 08/98

4. Assessor's comments

Comment
The assessable criteria have been addressed and the proposed clearing is at variance to Principle (g) and may be at variance to Principle (a), (b) and (i).

5. References

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DAFWA (2008) Land degradation assessment report. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Environment and Conservation (DEC), received 9/07/2008. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. TRIM ref. DOC57528.

EPA (2006) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.

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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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Site Inspection (2008) Site Inspection Report, Department of Environment and Conservation (DEC), Western Australia, TRIM Ref DOC56664.

Submission, Direct Interest Submission, 16/04/2008, TRIM DOC57689.

Western Australian Herbarium (1998-).Florabase - The Western Australian Flora. Department of Environment and Conservation.http://florabase.calm.wa.gov.au/(Accessed 9/06/2008).

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)