Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2061/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Co-operative Bulk Handling Limited**

1.3. Property details

Property: LOT 30 ON PLAN 217011 (BORDEN 6338)

Local Government Area: Shire Of Gnowangerup

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.7		Mechanical Removal	Road construction or maintenance

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
The mapped Beard vegetation association is type 938 (Hopkins et al. 2001, Shepherd et al. 2001) , described as medium woodland; York Gum (Eucalyptus loxophleba) and Yate (Eucalyptus cornuta, E. lehmannii or E. occidentalis).	A site inspection undertaken by DEC staff on 14 September 2007 found that the vegetation within the area under application is consistent with the two vegetation units mapped by Bennett Environmental Consulting (2006). These vegetation units are as follows:	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	On average, the vegetation condition within the area under application is considered to be degraded (Keighery 1994). About a third of the area under application is described by Bennett Environmental Consulting (2006) to be in degraded condition.
Three distinct vegetation units have been mapped for the area under application by Bennett Environmental Consulting (2006). These are: - low forest of Casuarina obesa (Swamp Sheoak) over very open low grass of weed taxa; - low woodland of Acacia acuminata (Jam) over tall grass of Ehrharta calycina (Perennial Veldt Grass) and Ehrharta longiflora (Annual Veldt Grass) over open herbs of Dianella revoluta (Blueberry Lily); and - scattered plants of Acacia acuminata (Jam) and Casuarina obesa (Swamp Sheoak) over weeds.	Low Forest A of Casuarina obesa over Very Open Low Grass of weed taxa. This vegetation unit occurred slightly lower on the landscape than the following one. Low Woodland A of Acacia acuminata over Tall Grass of *Ehrharta calycina and *Ehrharta longiflora over Open Herbs of Dianella revoluta. Most of the site was a combination of the two vegetation units with Casuarina obesa and Acacia acuminata occurring together.		

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 proposed clearing of approximately 3.7 hectares of native vegetation within Lot 30 on Plan 217011 is for the purpose of expansion and access within CBH's grain receival facility on the northern side of the Borden townsite. The proposed clearing focuses on predominantly degraded vegetation within Lot 30, and the balance of good to very good condition vegetation on the eastern side of Lot 30 is proposed to be amalgamated with adjacent vegetated Lot 38.

The vegetation association occurring within the area under application is mapped as vegetation type 938 (Hopkins et al. 2001, Shepherd et al 2001), which is extensively cleared within the Mallee bioregion (with approximately 19.5% of its original extent remaining in the intensive landuse zone). In its predominantly degraded condition (Keighery 1994), with compromised indigenous floristic diversity and dominance of introduced grasses in the understorey, the vegetation within the area under application is not particularly representative of this association.

The remnant vegetation at the site was mainly good with small areas of very good. These areas occur on the eastern side of the property and are largely not part of the vegetation proposed to be cleared. About one third of the site and the areas adjacent to the cleared paddocks varied between degraded and completely degraded (Bennett Environmental Consulting 2006).

In a local context, given the presence of better-quality vegetation adjacent to the east and nearby around the perimeter of the Borden townsite, the predominantly degraded vegetation within the area under application is not considered to be representative of an area of outstanding biodiversity.

In a broader context, there are large areas of remnant vegetation to the south of the area under application, linking via watercourses and roadsides with better-quality vegetation adjacent to the east and nearby around the perimeter of the Borden townsite.

Methodology

DEC site visit (2007)
Hopkins et al. (2001)
Keighery (1994)
Shepherd et al (2001)
GIS datasets
- Borden 50cm Orthomosaic - Landgate 06
- Mt Barker 1.4m Orthomosaic - DOLA 01
- Pre-European Vegetation - DA 01/01

(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

A fauna survey commissioned by the proponent (Harewood 2007), in accordance with EPA Position Statement No.3 (2002) and EPA Guidance for the Assessment of Environmental Factors No. 56 (2004), indicates that the area under application is unlikely to provide significant habitat for fauna. The survey indicated fifteen indigenous and two introduced avian fauna and one indigenous and three introduced mammals as being present within the area under application (none of which are considered threatened or priority species). The survey specifically targeted potential nesting habitat for Carnaby's Black Cockatoo and the inland sub-species of the Western Rosella. No such nesting sites were identified with the area under application. A desktop study was also undertaken and concluded that no species of significance would be impacted by the proposed clearing.

A site inspection undertaken by DEC staff on 14 September 2007 reported an observation of an additional one taxa of avian fauna to those reported by Harewood (2006).

There are over 100 records of threatened and priority fauna within a 50 kilometre radius of the area under application, approximately half of these being threatened. The closest of these records are for Bilby (threatened), Malleefowl (threatened), Western Whipbird (threatened), Woylie (Priority 5) and Quenda (Priority 5) which have been recorded between 580 - 930 metres from the area under application. However all of these records are dated between 1967 - 1972, therefore given that there have been no recent sightings of these species and given the predominantly degraded condition of the vegetation, it is unlikely that these species would occur within the area under application.

The presence of a predominantly degraded vegetation structure limits the area under application's potential as fauna habitat. Trees present within the area under application are relatively young and do not appear to contain significant hollows suitable for nesting avian fauna or arboreal mammals. Further, the presence of similar habitat in better condition adjacent to the area under application would be more likely to be used by fauna.

Aerial photography indicates that the vegetation within the area under application acts to connect remnant

vegetation around the perimeter of the Borden townsite. Thus even in a predominantly degraded condition the vegetation within the area under application provides a corridor for wildlife movement (in particular avian fauna), thus may be considered necessary for the maintenance of local fauna populations.

Methodology

DEC site visit (2007)
EPA (2004)
EPA (2002)
Harewood (2007)
GIS datasets
- Borden 50cm Orthomosaic - Landgate 06
- Mt Barker 1.4m Orthomosaic - DOLA 01
- SAC Bio Datasets Fauna 11/07/07

(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 over 400 records of rare and priority flora within a 50 kilometre radius of the area under application, approximately a third of these being rare. The closest of these records are for Coleathera coelophylla (Priority 1) and Acacia dictyoneura (Priority 4), both recorded approximately 760 metres from the area under application, Thelymitra psammophila (rare) and Spyridium mucronatum subsp. recurvum (Priority 3), both recorded approximately 1010 metres from the area under application, Acacia declinata (Priority 3) recorded approximately 1650 metres from the area under application, and Orthrosanthus muelleri (rare) recorded approximately 2560 metres from the area under application.

The above species occur in gravely sand, sandy clay or loam soils, consistent with the mapped soil type for the area under application (Od7) described as undulating terrain traversed by numerous streams, many of which exhibit features of salinity; some gneissic rock outcrops: chief soils seem to be hard alkaline red soils and neutral red soils with hard alkaline yellow soils.

A flora survey commissioned by the proponent (Bennett Environmental Consulting 2006), conducted in accordance with EPA Guidance for the Assessment of Environmental Factors No. 51, indicated that no rare or priority flora taxa are present within the area under application.

A site inspection undertaken by (DEC 2007) found that the vegetation is in predominantly degraded condition and is utilised for rubbish dumping and by recreational vehicles, and is therefore unlikely to support threatened or priority flora.

Methodology

Bennett Environmental Consulting (2006)
DEC site visit (2007)
EPA (2004)
GIS datasets
- Soils, Statewide - DA 11/99

SAC Bio GIS Datasets
- WAHerb - 13/07/07
- DeFl - 11/07/07

(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 at variance to this Principle

The nearest known occurrence of a Threatened Ecological Community (TEC) is located approximately 31.7 kilometres south of the area under application, within the Stirling Range National Park.

It is unlikely that the proposed clearing will impact on a TEC.

Methodology

GIS SAC Bio Datasets
- TEC points - 05/07/07
- TEC boundaries - 05/07/07

(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 may be at variance to this Principle

The mapped Beard vegetation association is type 938, described as medium woodland; York Gum (Eucalyptus loxophleba) and Yate (Eucalyptus cornuta, E. lehmannii or E. occidentalis).

	Pre-European	Current extent	Remaining	Pre-European %

	(ha)	(ha)	(%)	in reserve/DEC land
IBRA Bioregions: *				
- Mallee *	7 404 398 7 404 398	806 971 a 4 130 281 b	19.5 56	
Shire of Gnowangerup *	423 822	81 916	19.3	
Beard vegetation assoc: *				
- Type 938	35 818 b	4 489	12.5	1.4

* statistics from Hopkins et al. (2001), Shepherd et al (2001)
a Extent within the Intensive Landuse Zone
b Extent within the IBRA Bioregion

The statistics indicate that extensive clearing (within the Intensive Landuse Zone) has occurred within the Shire of Gnowangerup.

There is approximately 2.8 ha (63%) of vegetation remaining on the property. After the proposed clearing there will be 0.94 ha (20%) of vegetation remaining. There is approximately less than 10% of vegetation remaining in the local area (10 km radius).

The vegetation present within the area under application is predominantly degraded, thus its composition is not especially representative of the mapped vegetation association. However, the mapped vegetation association has been extensively cleared within the Mallee IBRA Bioregion, and is under-represented within the conservation estate.

Methodology

Hopkins et al. (2001)
Shepard et al (2001)
GIS datasets
- Borden 50cm Orthomosaic - Landgate 06
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI 8/07/04
- 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 may be at variance to this Principle

Aerial photography indicates that a minor non-perennial watercourse occurs approximately 250 metres north of the area under application, and a tributary to this watercourse occurs approximately 380 metres southwest of the area under application. These are tributaries of Waperup Creek which flows into Pallinup River. There are two minor drains within the area under application.

The mapped vegetation association is type 938 (Hopkins et al. 2001, Shepherd et al 2001), described as medium woodland; York Gum (Eucalyptus loxophleba) and Yate (Eucalyptus cornuta, E. lehmannii or E. occidentalis).

Three distinct vegetation units have been mapped for the area under application by Bennett Environmental Consulting (2006). These are:
- low forest of Casuarina obesa (Swamp Sheoak) over very open low grass of weed taxa;
- low woodland of Acacia acuminata (Jam) over tall grass of Ehrharta calycina (Perennial Veldt Grass) and Ehrharta longiflora (Annual Veldt Grass) over open herbs of Dianella revoluta (Blueberry Lily); and
- a mixture of the above being, scattered plants of Acacia acuminata (Jam) and Casuarina obesa (Swamp Sheoak) over weeds.

A site inspection undertaken (DEC 2007) did not identify the presence of any wetland-dependent vegetation within the area under application.

During their survey the previous year Bennett Environmental Consulting (2006) identified the presence of Flat-topped Yate (Eucalyptus occidentalis) and Swamp Sheoak (Casuarina obesa) within the area under application.

The FloraBase website indicates that:
- Eucalyptus occidentalis is typically found growing in sandy or clayey soils, associated with alluvial flats, low-lying wet areas, around salt lakes, and hills; and
- Casuarina obesa is typically found growing in sand and clay soils, often in brackish or saline situations,

associated with rivers, creeks, and salt lakes.

Thus it can be surmised that Eucalyptus occidentalis and Casuarina obesa are taxa that are found growing in association with watercourses and wetlands. There are two minor drains within the area under application.

Methodology Bennett Environmental Consulting (2006)
Hopkins et al. (2001)
Shepherd et al (2001)
DEC FloraBase (2007)
GIS datasets
- Borden 50cm Orthomosaic - Landgate 06
- Geodata, Lakes - GA 28/06/02
- Hydrography, linear - DOW 13/7/06
- Mt Barker 1.4m Orthomosaic - DOLA 01

(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 mapped soil type for the area under application (Od7) is described as undulating terrain traversed by numerous streams, many of which exhibit features of salinity; some gneissic rock outcrops: chief soils seem to be hard alkaline red soils and neutral red soils with hard alkaline yellow soils.

It is likely that the proposed clearing will contribute to increased surface water runoff, which could result in some surface soil erosion during heavy rainfall events. The design of the CBH infrastructure proposed to be constructed following the proposed clearing is likely to mitigate the potential for soil erosion.

Methodology GIS datasets
- 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 at variance to this Principle

There are approximately thirty one Nature Reserves, one National Park and several conservation covenant sites (DEC, NTWA and DAFWA) within a 50 kilometre radius of the area under application.

The nearest conservation area is Toomerup Nature Reserve located approximately 15.5 kilometres to the northeast, and Chirelilup Nature Reserve located approximately 17.3 kilometres to the northwest, of the area under application. Both of these conservation areas are situated higher in the landscape (260-280 metres ASL) than the area under application (210-220 metres ASL) and occur in different subcatchments. Aerial photography indicates fragmented connectivity with the area under application.

Due to the distance of these reserves and conservation areas to the area under application, the proposed clearing is unlikely to impact on them.

Methodology GIS datasets
- Borden 50cm Orthomosaic - Landgate 06
- CALM Managed Lands and Waters - CALM 01/07/05
- Hydrological Catchments - Subcatchments - DOW
- Mt Barker 1.4m Orthomosaic - DOLA 01
- Topographic Contours, Statewide - DOLA 12/09/02

(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 area under application occurs within the Beaufort Inlet_Pallinup River hydrological catchment.

Aerial photography indicates that a watercourse occurs approximately 250 metres north of the area under application, and a tributary to this watercourse occurs approximately 380 metres southwest of the area under application. Both the watercourse and its tributary are located approximately 210 metres above sea level, and are either already affected or at risk of becoming affected by salinity.

The potential for impacts on the tributary as a result of the proposed clearing is not considered to be as great as for the watercourse, due to the presence of Borden townsite between the area under application and the tributary.

It is likely that the proposed clearing will contribute to increased runoff into the watercourse, given that the area

under application sits between 210 - 220 metres above sea level and therefore slightly elevated. The removal of vegetative cover could result in some surface soil erosion during heavy rainfall events, which may result in sedimentation within the watercourse. The design of the CBH infrastructure proposed to be constructed following the proposed clearing is likely to mitigate the potential for soil erosion thereby mitigating the potential for sedimentation.

The proposed clearing and subsequent construction of grain receival facilities may result in changes in the nutrient loading of surface water entering the watercourse. The presence of cleared agricultural land and existing CBH infrastructure between the area under application and the watercourse suggests that any impacts resulting from the proposed clearing will be incremental to those already present, and given the 3.7 hectare extent of the proposed clearing of predominantly degraded vegetation these impacts are not likely to be significant.

Methodology GIS datasets
- Borden 50cm Orthomosaic - Landgate 06
- Hydrographic Catchments - Catchments ? DOW
- Mt Barker 1.4m Orthomosaic - DOLA 01
- Salinity Mapping LM 25m - DOLA 00
- Salinty Risk LM 25m - 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 at variance to this Principle

The area under application occurs within the Beaufort Inlet_Pallinup River hydrological catchment. Aerial photography indicates that a watercourse occurs approximately 250 metres north of the area under application, and a tributary to this watercourse occurs approximately 380 metres southwest of the area under application. Previously-cleared developed and/or agricultural land exists between the area under application and these watercourses.

The average rainfall of the general area is approximately 400 millimetres per annum, and the average evaporation of the general area is approximately 400 millimetres per annum.

Given the presence of watercourses nearby, and the presence of adjacent cleared lands, the clearing of approximately 3.7 hectares of vegetation in predominantly degraded condition, comprising mainly of trees over introduced grasses with a few scattered indigenous shrubs, is unlikely to exacerbate the incidence or intensity of flooding.

Methodology GIS datasets
- Evaporation, Areal Actual - BOM 30/09/01
- Geodata, Lakes - GA 28/06/02
- Hydrographic Catchments - Catchments - DOW
- Rainfall, Mean Annual - BOM 30/09/01
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

A letter from CBH dated 22 August 2007 advises that "CBH have gone to great lengths to minimise the land clearing impact in the area by acquiring already cleared land (Lot 6160) to the north to expand our grain receival facility. I hope you look favourably at CBH's attempts to minimise clearing impact in this instance when assessing our application. The Borden site is of high importance for CBH and we hope you can assess this application at your earliest convenience."

WAITING ON ADVICE FROM SHIRE RE: DEVELOPMENT APPLICATION. WAITING ON APPLICANTS TO FINALISE SALE OF LAND (CAN DO LETTER OF UNDERTAKING ONCE SHIRE APPROVAL GIVEN).

Methodology

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Road construction o maintenance	Mechanical Removal	3.7	The assessable criteria have been addressed and the clearing as proposed may be at variance to Principle (b), (e) and (f), is not likely to be at variance to Principle (a), (c), (g) and (i) and is not at variance to Principle (d), (h) and (j).

5. References

Bennett Environmental Consulting Pty Ltd (December 2006). Flora and Vegetation, Lot 30, Borden. Report prepared for Cooperative Bulk Handing.

DEC Florabase (2008) http://florabase.dec.wa.gov.au/. (Retrieved 15 February 2008).

Department of Environment and Conservation (2007) Site Visit Report. Native Vegetation Conservation CPS 2061/1. DEC TRIM Ref: DOC46038

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.

EPA (2002) Terrestrial Biological Surveys as an element of biodiversity protection. Position Statement No. 3. March 2002. Environmental Protection Authority

EPA (2004) Guidance for the Assessment of Environmental Factors - terrestrial fauna for Environmental Impact Assessment in Western Australia. Report by the EPA under the Environmental Protection Act 1986. No 56 WA.

EPA (2004) Guidance for the Assessment of Environmental Factors - terrestrial flora and vegetation surveys for Environmental Impact Assessment in Western Australia. Report by the EPA under the Environmental Protection Act 1986. No 51 WA.

Harewood, G. (February 2007). Fauna Assessment, Lot 30 Borden, incorporating Carnaby's Black-Cockatoo and Western Rosella (inland ssp) nest habitat surveys. Report prepared for Cooperative Bulk Handling.

Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.

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

Schoknecht N. (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3

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.

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)