Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2639/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Dundas

1.3. Property details

Property: UNALLOCATED CROWN LAND (NORSEMAN 6443)
Local Government Area: Shire Of Dundas
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
7		Mechanical Removal	Extractive Industry

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: 128 - Bare areas; rock outcrops 125 - Bare areas; salt lakes 511 - Medium woodland; salmon gum & morrel 519 - Shrublands; mallee scrub, Eucalyptus eremophila 1148 - Shrublands; scrub-heath in the Coolgardie Region 1413 - Shrublands; acacia, casuarina & melaleuca thicket 522 - Medium woodland; redwood (Eucalyptus transcontinentalis) & merrit (E. floctoniae) 491 - Medium woodland; morrel & Dundas blackbutt (E. dundasii) 936 - Medium woodland; salmon gum	The proposal is for the clearing of 7ha of native vegetation over 7 pits within the applied area (approximately 1ha of clearing in each pit).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The vegetation description was determined using aerial mapping Western Australia ETM 25m 543 AGO 2002 and historic information obtained during the assessment of CPS 1496/1. In addition a Vegetation Survey of the pits under application (submitted by the applicant) also identified the vegetation as being in Very Good (Keighery, 1994) condition with obvious signs of disturbance from historic gravel pits. (Botanica Consulting, 2008)

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 proposed clearing is for the purpose of gravel pit extensions for maintenance of Hyden-Norseman Rd. The proposal includes clearing of approximately 7ha of native vegetation over 7 gravel pits (1 ha in each) in very good (Keighery, 1994) condition.

The local area (10km radius) is approximately 85% vegetated with most of the surrounding vegetation in similar or better condition (with the exception of existing gravel pits adjacent to the areas under application).

There are 2 recorded of threatened fauna within a 10km radius; however the vegetation under application is not likely to be significant fauna habitat due to the high vegetation retention in the local area.

There are 45 rare or priority flora recorded within the local area, of which 2 rare flora and 33 priority flora species occur on the same soil and vegetation as the area under application.

Therefore the clearing as proposed may be at variance to this principle as the vegetation under application may be of high biodiversity value.

Revegetation conditions will also be placed on the permit to mitigate the potential loss of biodiversity from the local area.

Methodology References:
Keighery (1994)

GIS Database:
Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
NLWRA, Current Extent of Native Vegetation 20 Jan 2001
Pre European Vegetation - DA 01/01
SAC Biodatasets - accessed 24 September 08
Western Australia ETM 25m 543 AGO 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 vegetation associations under application are all well represented statewide and the local area (10km radius) retained approximately 85% native vegetation cover.

As the local area is well vegetated, the vegetation under application is not considered to be significant habitat, in a local context, for fauna indigenous to Western Australia.

Therefore the clearing as proposed is not likely to be at variance to this principle

Methodology GIS Database:
NLWRA, Current Extent of Native Vegetation 20 Jan 2001
Pre European Vegetation - DA 01/01
SAC Biodatasets - accessed 24 September 08
Western Australia ETM 25m 543 AGO 2002

(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**
A flora survey conducted by Botanica Consulting (2008) did not observe any rare flora and 2 priority flora within the applied area survey sites.

There are two known records of rare flora within a 10km radius of the areas applied to be cleared, namely Eremophila virens and Eucalyptus platydisca.

Neither of the rare flora recorded within the local area are likely to occur within the applied area as they are know to occur on granite hillsides or stony hills which do not occur within the applied area.

Therefore the clearing as proposed is not likely to be at variance to this principle.

Methodology References:
Botanica Consulting (2008)

GIS Database:
SAC Biodatasets - accessed 24 September 08
Pre European Vegetation - DA 01/01
Western Australia ETM 25m 543 AGO 2002

(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**
The closest known Threatened Ecological Community (TEC), namely, Bremer01 and Bremer02 (Plant assemblages of the Bremer Range System) is located 26km west of the applied area.

Due to the distance between the proposed clearing and the closest known TEC, the clearing as proposed is not likely to be at variance to this principle.

Methodology GIS Database:
SAC Biodatasets - accessed 24 September 08
Western Australia ETM 25m 543 AGO 2002

(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**

	Pre-European area (ha)	Current extent (ha)	Remaining %	% in reserves/DEC-managed land
IBRA Bioregion **				
- Coolgardie	12,921,167	12,716,583	98.42	15.54
LGA				
- Shire of Dundas*	9,303,336	9,296,483	99.93	9.71
Beard vegetation associations**				
- 128	331,814	283,214	85.35	20.98
- 125	3,489,858	3,246,667	93.03	7.19
- 511	700,409	494,147	70.55	19.46
- 519	2,333,414	1,399,943	60.00	17.2
- 1148	260,383	257,534	98.91	17.72
- 1413	1,679,917	1,247,101	74.24	17.35
- 522	709,715	709,715	100	5.47
- 491	67,168	67,168	100	0.0
- 936	698,752	675,635	96.69	3.73

* (Shepherd et al., 2001; Hopkins et al., 2001)
** (Shepherd, 2007)

The local area has approximately 85% native vegetation remaining, and the vegetation types under application are all well represented statewide.

The applied areas are not considered to be significant as remnants in an extensively cleared landscape, and therefore the clearing as proposed is not likely to be at variance to this principle.

Methodology References:
Hopkins et al. (2001)
Shepherd et al (2001)
Shepherd (2007)

GIS Database:
SAC Biodatasets - accessed 24 September 08
Pre European Vegetation - DA 01/01
NLWRA, Current Extent of Native Vegetation 20 Jan 2001
Western Australia ETM 25m 543 AGO 2002

(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**
None of the areas under application (pits) are within known wetlands or watercourses.

The closest record of a wetland or watercourse is approximately 2 km from areas applied to be cleared.

Therefore the vegetation under application is not likely to be growing in association with a watercourse and the clearing as proposed is not likely to be at variance to this principle.

Methodology GIS Database:
Hydrography linear - DOW 13/7/06
Western Australia ETM 25m 543 AGO 2002

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

Comments

Proposal may be at variance to this Principle

The clearing as proposed is mapped as 3 different soil types;
1. AC1: chiefly sandy yellow earths and/ or ironstone gravels
2. DD13: chiefly brown to grey-brown calcareous earths and/ or crusty loamy soils
3. Nc2: chiefly crusty loam soils and/or brown to grey-brown calcareous earths.

(Northcote et al., 2001)

Clearing of the vegetation on soil types AC1 and DD13 may result in wind erosion due to the sand content of the soils. Over time, exposure of the soils to wind may result in appreciable wind erosion.

The groundwater salinity of the applied area is mapped between 14,000 and 35,000 mg/L. Whle the local are is well vegetated, clearing of vegetation within the local area may incrementally increase groundwater salinity levels however the impact of the proposed clearing is not likely to be appreciable.

Therefore the clearing as proposed may be at variance to this principle as the clearing may result in an increase in groundwater salinity and wind erosion if not managed correctly.

Revegetation conditions will be placed on the permit to mitigate the potential impact of clearing on groundwater salinity levels and long term wind erosion impacts.

Methodology

References:
Northcote et al. (2001)

GIS Database:
Hydrography, linear - DOW 13/7/06
Salinity Risk LM 25m - DOLA 00
Soils, Statewide DA 11/99
Topographic contours statewide - DOLA and ARMY 12/09/02
Western Australia ETM 25m 543 AGO 2002

(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 no recorded conservation areas within the local area (10km radius).

Therefore the clearing as proposed is not likely to be at variance to this principle as it is not likely to impact on the environmental values of nearby conservation areas.

Methodology

GIS Database:
CALM Managed Lands and Waters - CALM 01/06/05
Register of National Estate - Environment Australia, Australian and world heritage division 12 Mar 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 may be at variance to this Principle

The groundwater salinity of the area under application is mapped as being high (14,000 to 35,000 mg/L) and further removal of vegetation from the local area (10km radius) may incrementally increase salt levels in groundwater.

The clearing as proposed is likely to incrementally deteriorate surface and groundwater quality, however taking into account that the local area is well vegetated (approx. 85%), deterioration of water quality is not likely to be significant.

Therefore the clearing as proposed may be at variance to this principle as clearing may cause deterioration in the quality of groundwater.

Revegetation conditions will be placed on the permit to mitigate potential impacts of clearing on the quality of surface and/or ground water.

Methodology

GIS Database:
Groundwater Salinity Statewide DoW 13/07/06
Mean Annual Rainfall Isohytes (1975 - 2003) DEC 02/08/05
Topographic Contours, Statewide DOLA 12/09/02
Western Australia ETM 25m 543 AGO 2002

(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 areas applied to be cleared spread of 7 pits of approximately 1ha of clearing in each pit.

Taking into account the high vegetation retention of the local area (approximately 85%), the high sand content of the mapped soil types (Northcote et al., 2001) and the small size of each area to be cleared (7 by 1 ha), the clearing as proposed is not likely to cause or exacerbate the incidence or intensity of flooding.

Therefore the clearing as proposed is not likely to be at variance to this principle.

Methodology References:
Northcote et al. (2001)

GIS Database:
Soils, Statewide DA 11/99
Western Australia ETM 25m 543 AGO 2002

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

Comments

The proposed clearing is for extensions to gravel pits previously approved for clearing (CPS 1496/1) by Department of Environment and Conservation.

Regional Advice (trim Ref DOC63466) identified a number of priority flora species in close proximity to the areas under application. The advice also identified a need for rehabilitation of the old Hyden-Norseman Road. The issues raised in this advice have been addressed under the clearing principles where appropriate.

Methodology GIS Database:
Clearing Instruments Current
Native Title Claims - LA 2/5/07

4. Assessor's comments

Comment
The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and may be at variance with principles (a), (c), (g) and (i) and is not likely to be at variance to principles (b), (d), (e), (f), (h) and (j).

5. References

Botanica Consulting (2008) Vegetation Survey of Proposed Gravel Pit expansions, Prepared for the Shire of Dundas, July 2007 Draft. DOC58436

Department of Environment and Conservation (DEC) (2008) Regional Advice to Assessing Officer, unpublished, DEC, trim red DOC 63466.

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.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

Shepherd, D.P. (2007). 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.

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)