Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2920/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: MR Thomas George Marshall

1.3. Property details

Property: LOT 7182 ON PLAN 224140 (CRANBROOK 6321)
Local Government Area: Shire Of Cranbrook
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4		Mechanical Removal	Dam 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
Beard Vegetation Unit: 967 - Medium woodland; wandoo & yate	This proposal is to clear 4 hectares of native vegetation for the purpose of creating additional catchment for an existing dam.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The vegetation condition was determined through aerial photography (Mount Barker North 1.4m Orthomosaic - Landgate 2001) and a site inspection (DEC, 2009).

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 at variance to this Principle

The proposal is to clear 4 hectares of native vegetation for the purpose of creating additional catchment for an existing dam.

The vegetation under application is in degraded (Keighery, 1994) condition as there are obvious signs of disturbance and the vegetation structure appears to be significantly altered (DEC, 2009).

The local area (10km radius) retains approximately 20% native vegetation cover and the applied area falls with the EPA defined agricultural zone (EPA, 2000).

The applied area is part of a larger remnant in a highly cleared landscape in better condition than the applied area (DEC, 2009). However given the extensively cleared landscape and the number of habitat trees within the applied area (DEC, 2009) the area under application is significant as native fauna habitat and as an ecological linkage and /or stepping stone within the local area.

There are five priority flora species which are recorded within the local area all of which occur on the same or similar soils (Northcote et al., 1968) and vegetation (Shepherd, 2007) as the applied area. Given the complete lack of understorey and ground cover within the applied area it is not likely that these priority species occur within the applied area (DEC, 2009).

As the vegetation under application is in similar condition as much of the surrounding vegetation, and taking into account the extensively cleared condition of the local area the clearing as proposed is considered likely to contain a high level of biodiversity in a local context.

Therefore the clearing as proposed is at variance to this principle.

Methodology

References:
DEC (2009)

EPA (2000)
Keighery (1994)
Northcote et al. (1968)
Shepherd (2007)

GIS Database:
CALM Managed Lands and Waters - CALM 01/06/05
SAC Biodatasets - accessed 2 February 2009
Pre European Vegetation - DA 01/01
Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
NLWRA, Current Extent of Native Vegetation 20 Jan 2001
Soils, Statewide DA 11/99

(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 local area (10km radius) retains approximately 20% native vegetation cover. The vegetation under application falls within a larger remnant within this extensively cleared landscape.

A site inspection of the applied area identified numerous hollow bearing habitat trees (Wandoo and Jarrah) which provide habitat for local animals as well as large logs on the woodland floor which are likely to provide habitat and refuge to small ground dwelling fauna (DEC, 2009).

There is one known species of conservation significance occurring within the local area, namely Carnaby's Black Cockatoo. Carnaby's Cockatoos lay eggs from July to November however during the non-breeding season they forage locally in heathland (Saunders, 1982). A site inspection of the applied area did not observe any cockatoos within the applied area however suitable habitat was identified (DEC, 2009) for breeding.

Given the dissected condition of the vegetation in the local area, this remnant is significant as habitat for native fauna particularly as a stepping stone and/or ecological linkage to other scattered remnant vegetation.

As the area under application is significant habitat for native fauna and may be remnant habitat for the Carnaby's Black Cockatoo at some times of the year.

The applied area forms part of a stepping stone linkage to nearby larger areas of remnant vegetation in an extensively cleared landscape therefore the vegetation under application is part of significant vegetation within the local area and the proposal is at variance to this principle.

Methodology

References:
DEC (2009)
Saunders (1982)

GIS Database:
SAC Bio Datasets accessed 2 February 2009

(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 two known records of rare flora occurring within the local area (10km radius), namely Banksia mucronulata subsp. retrorsa and Gastrolobium lehmannii.

Both of these rare flora are mapped as occurring on the same soil (Northcote et al., 1968) and vegetation (Shepherd, 2007) as the applied area however both species are known to occur in microhabitats not consistent with the area under application (WA Herb, 1998-).

There are also 5 priority flora recorded within the local area which are known to occur on the same or similar soils and vegetation types. A site inspection of the applied area identified that the area under application was devoid of understorey and ground cover (DEC, 2009), therefore it is unlikely that these species will occur within the applied area.

Given the above the clearing is not likely to be at variance to this principle as the applied area is not likely to include or be necessary for the continued existence of rare flora.

Methodology

References:
DEC (2009)
Northcote et al. (1968)
Shepherd (2007)

WA Herbarium (1998 -)

GIS Database:
Pre European Vegetation - DA 01/01
SAC Bio Datasets accessed 2 February 2009
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 records of Threatened Ecological Communities (TECs) within the local area (10km radius).

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

Methodology

GIS Database:
SAC Bio Datasets accessed 2 February 2009

(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

	Pre-European (ha)	Current extent (ha)	Remaining (%)	% In reserves DEC Managed Land
IBRA Bioregions***				
Avon Wheatbelt^	9,518,411	1,444,595	15.18	11.12
Shire**				
Cranbrook	327,505	123,832	37.81	35.64
Beard Vegetation Complex*				
27^				
state	102,984	14,500	14.08	4.35
Bioregion	76,083	8,328	10.95	2.35

* (Shepherd et al. 2007)
** (Hopkins etal., 2001; Shepherd et al., 2001)
^ Area within Intensive Land Use Zone

The area under application falls within EPA Position Statement No.2 agricultural area, which has a general presumption against clearing within the agricultural area (EPA, 2000) for agricultural purposes.

Beard vegetation association 967 (Shepherd, 2007; DEC, 2009) has a current extent of 10.95% within the bioregion which is lower than the desirable 30% threshold level target identified by the EPA (2000) and therefore the vegetation under application is deemed to be a critical asset (EPA, 2006).

The applied area forms part of a stepping stone linkage to nearby larger areas of remnant vegetation in an extensively cleared landscape therefore the vegetation under application is part of significant vegetation within the local area and the proposal is at variance to this principle.

Methodology

References:
DEC (2009)
EPA (2000)
EPA (2006)
Hopkins et al. (2001)
Shepherd et al. (2001)
Shepherd (2007)

GIS Database:
Interim Biogeographic Regionalisation of Australia - EA 18/10/00
Local Government Authorities - DLI 8/07/04
Pre European Vegetation - DA 01/01
SAC Biodatasets - accessed 11 Feb 08
NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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

The area under application boarders an existing earth dam (north).
The purpose of clearing is to enhance the capacity of water stored in this earth dam by clearing a catchment area directly upslope of the dam.

Given that the applied area does not include any wetlands or watercourses the clearing as proposed is not likely to be at variance to this principle.

Methodology

GIS Database:
ANCA wetlands - Environment Australia 26/3/99
Hydrography linear - DOW 13/7/06
Ramsar wetlands - DEC 03

(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 vegetation under application is within mapped soil type Ub90 which consists of chiefly hard neutral or mottled yellow acidic soils and hard acidic and neutral red soils on sloped areas (Northcote et al., 1968; DEC, 2009).

The area under application is slightly sloping to the north (DEC, 2009) and is within a high ground water salinity area (7000 to 14000mg/L). The applied area appears to be suffering in some areas, particularly Jarrah trees, from the effects of salinity while area north of the dam (lower topography) are severely salt effected (DEC, 2009).

The purpose of this proposal is to increase run off into a catchment dam north of the applied area, given the purpose of the application and the soils of the applied area clearing may result in water erosion of the soils from increased run off (DAFWA, 2009), some evidence of which is already visible on site (DEC, 2009) and an increase in salinity (DAFWA, 2009) within the immediate area.

Therefore the clearing as proposed may be at variance to this principle.

Methodology

References:
DAFWA (2009)
DEC (2009)

GIS Database:
Average Annual Rainfall Isohyets - WRC 29/09/98
Annual Evaporation Contours (Isopleths) - WRC 29/09/98
Hydrogeology, statewide - DOW 13/07/06
Hydrographic catchments, catchments - DoW 01/06/07
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

(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 areas of conservation significance within the local area (10km radius).

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

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
System 1 to 5 and 7 to 12 areas - DEC 11/7/06

(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 purpose of this application is to increase run off into an existing catchment dam north of the applied area.

The clearing as proposed may increase salinity levels in the immediate area however as the run off will be contained in the immediate vicinity of the clearing and given that there are no watercourses or wetlands in close proximity to the applied area, the clearing as proposed may cause deterioration in the quality of surface or groundwater within the local area.

Therefore the clearing as proposed may be at variance with this principle.

Methodology GIS Database:
Evapotransporation Isopleths - WRC 29/09/98
Groundwater Salinity Statewide DoW 13/07/06
Hydrographic catchments, catchments - DoW 01/06/07
Hydrography, linear - DOW 13/7/06
Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
Salinity 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 likely to be at variance to this Principle**
Given the purpose of this proposal (increase run off into catchment dam) the likelihood of the clearing causing or exacerbating the incidence or intensity of flooding in low.

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

Methodology GIS Database:
Evaporation Isopleths - WRC 29/09/98
Hydrographic catchments, catchments - DoW 01/06/07
Hydrography, linear - DoW 13/7/06
Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

A submission was received from the applicant (DOC81208) stating that the slope to the dam area is very gradual and water would seep rather than flow. Therefore, the applicant believes erosion would not occur. The applicant stated that fauna would not be impeded by the clearing from the photograph of the proposed clearing.

The area under application falls within EPA Position Statement No.2 agricultural area, which has a general presumption against clearing within the agricultural area (EPA, 2000) for agricultural purposes.

Methodology EPA (2000)

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 the proposed clearing is at variance to Principles (a), (b) and (e), may be at variance to Principle (g) and (i) and is not likely to be at variance to the remaining clearing Principles.

5. References

DAFWA (2009) Advice to assessing officer. Land Degradation Advice from Department of Agriculture and Food Western Australia. unpublished report. DOC78039.

DEC (2009) Site Inspection Report, Department of Environment and Conservation, unpublished report, DOC77066.

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, Western Australia.

EPA (2006) Environmental Offsets, Position Statement No. 9, January 2006, Environmental Protection Authority

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.

Saunders, D. A. (1982). The breeding behaviour and biology of the short-billed form of the white-tailed black cockatoo

Calyptorhynchus funereus. Ibis 124: 422-455.
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.
Submission (2009) Applicant submission CPS 2920/1.
Western Australian Herbarium (1998?). FloraBase The Western Australian Flora. Department of Environment and Conservation. http://florabase.dec.wa.gov.au/ (Accessed 1/4/2009).

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)