Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2335/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Kenneth Cyril & June Helen Spurge**

1.3. Property details

Property: LOT 2 ON DIAGRAM 54180 (House No. 421 HALL WAROONA 6215)
LOT 2 ON DIAGRAM 54180 (House No. 421 HALL WAROONA 6215)

Local Government Area: Shire Of Waroona

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.8		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
Mattiske Vegetation Complex: Darling Scarp - Mosaic of open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla, with some admixtures with Eucalyptus laeliae in the north (subhumid zone), with occasional Eucalyptus marginata subsp. elegantella (mainly in subhumid zone) and Corymbia haematoxylon in the south (humid zone) on deeper soils adjacent to outcrops, woodland of Eucalyptus wandoo (subhumid and semiarid zones), low woodland of Allocasuarina huegeliana on shallow soils over granite outcrops, closed heath of Myrtaceae-Proteaceae species and lithic complex on or near granite outcrops in all climate zones. Beard Vegetation Association: 3 - Medium forest; jarrah-marri 4 - Medium woodland; marri & wandoo (Shepherd 2006)	The proposal is to clear 0.8 hectares of native vegetation for the construction of a dam for fire fighting purposes. The vegetation under application comprises Eucalyptus marginata and Corymbia calophylla over an understorey comprising Xanthorrhoea preissi, Acacia pulchella, Macrozamia riedlei, Grevillea spp, Hakea spp. and Thomasia species, with large expanses of dense leaf litter. The vegetation within the applied area is in very good condition, apart from an access track transcending the centre of the area under application which is in completely degraded condition.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Vegetation clearing description is based on site visit conducted by DEC officers on Tuesday 26 February 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 is not likely to be at variance to this Principle

The majority of the vegetation under application is in very good condition with completely degraded areas confined to an access track transecting the centre of the area under application for a distance of approximately 150 metres. The area under application also contains both Jarrah and Marri forest vegetation which forms part of a much larger remnant (including the remainder of Lot 2) extending east towards Dwellingup State Forest No 14.

The vegetation under application has the potential to support a range of indigenous fauna, including species of conservation significance. During the DEC site visit kangaroo skats were seen within the applied area and kangaroos were observed grazing in vegetation adjacent to the area under application.

Given the limited size (0.8ha) of the area under application in relation to the remainder of Lot 2 and the Dwellingup State Forest No 14, it is not considered likely to represent an area of higher biodiversity, than what is present in the local area.

Methodology

DEC site visit - 26/02/2008
GIS Databases:
Calm Managed Lands and Waters - CALM 20/02/02

(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

Within the local area (5km radius) there have been three recorded occurrences of significant fauna species including the following:

- Baudin's Black-Cockatoo (Calyptorhynchus baudinii, EN)
- Numbat (Myrmecobius fasciatus, VU)
- Quenda (Isoodon obesulus fusciventer, P5)

According to Burbidge (2004), the Baudin's Black-Cockatoo inhabit jarrah, marri and karri forests nesting in large, deep hollows found within the identified tree species. During the DEC site visit no hollows were observed that could potentially be used as nesting habitat for the Baudin's Black-Cockatoo, with the trees under application not considered to be of hollow bearing age.

The last recorded sighting of the Numbat occurred in 1954 approximately 4.9km southwest of the area under application, with no further sightings of this species recorded within the local area. Given that Numbats are "now naturally restricted to the south-west" (Burbidge 2004), it is not considered likely the Numbat would be found within the area under application.

The vegetation under application comprises Eucalyptus spp. over an understorey that is dominated by Xanthorrhoea preissi, Macrozamia riedlei, Acacia pulchella, Grevillea spp, Hakea spp, Thomasia spp. and grass species which may provide some habitat for ground dwelling species such as the Quenda.

Although the vegetation and dense leaf litter under application may provide some foraging habitat for local fauna species, it is not considered to be significant, given the lack of hollows, the limited size (0.8ha) of the area under application and adjacent vegetation which was observed to be in the same condition as that found within the applied area.

Methodology

DEC Site visit - 26/02/2008
Burbidge (2004)
GIS Databases:
SAC BIO datatsets - accessed on 18/03/08

(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 (5km radius) there are no known populations of Declared Rare Flora (DRF). The closest DRF Diuris micrantha is located approximately 12.2km north of the area under application and is generally found in loamy clay soils in low lying areas associated with winter-wet swamps (Western Australian Herbarium, 1999) and amongst dense native sedges and Melaleuca spp. (Brown et al, 1988). Given that D. micrantha is found within a different vegetation complex and soil type to the area under application, it is unlikely to provide suitable habitat for the identified DRF species.

There are also 12 known populations of Priority flora within a 5km radius of the local area, the closest being

Phyllangium palustre (P2) which is located approximately 4km west of the applied area. Given that the vegetation under application is found on the Darling Scarp and that the identified Priority flora species are found on the Swan Coastal Plain and are associated with a different land form, it is unlikely that the vegetation under application includes, or is necessary for the continued existence of, rare flora.

Methodology DEC Site visit - 26/02/2008
Brown et al (1998)
Western Australian Herbarium (1998)
GIS Databases:
Pre-European Vegetation - DA 01/01
Soils, Statewide - DA 11/99
SAC BIO datasets - accessed on 19/03/08

(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 three known occurrences of Threatened Ecological Communities (TEC) within the local area (5km radius). The closest TEC is located approximately 4.1km southwest of the area under application and has been identified as Floristic Community Type 3a - Eucalyptus calophylla - Kingia australis woodlands on heavy soils.

Given that the vegetation under application is found on the Darling Scarp and that the identified TEC is found on the Swan Coastal Plain and is associated with a different land form, it is unlikely that the vegetation under application comprises or is necessary for the maintenance of a TEC.

Methodology DEC Site visit - 26/02/2008
GIS Databases:
Pre-European Vegetation - DA 01/01
Soils, Statewide - DA 01/01
SAC BIO datasets - accessed 28/02/08

(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**
The vegetation under application is part of Mattiske vegetation association DS (Darling Scarp) of which there is 43.3% of pre-European extent remaining (Mattiske Consulting 1998). The vegetation under application is also described as Beard vegetation association 3 and 4, of which there is 72.1% and 23.5% respectively of pre-European extent remaining (Shepherd 2006).

The area under application is located within the Shire of Waroona, within which there is 60.8% of pre-European extent remaining. The vegetation under application is also within the Jarrah Forrest IBRA Region of which there is 53.8% of pre-European vegetation remaining (EPA 2006).

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).

Although the vegetation association 4 (Shepherd 2006) has a representation below the recommended minimum 30% of pre-European extent, Mattiske (1998) vegetation representations are generally accepted as being the preferential figures for the Darling Scarp Bioregion, based on the scale of vegetation mapping and the related accuracy. The identified Mattiske (1998) vegetation type has representations above the recommended minimum level of 30%, as recognised by the State Government (Commonwealth of Australia, 2001).

Although the vegetation under application is situated within a large portion of remnant vegetation and is located within the Jarrah Forest IBRA Region, due to the limited size of the proposal (0.8ha) it is not likely to be significant as a remnant within the local area.

The proposal is therefore not considered likely to be at variance to this Principle.

	Pre-European area (ha)	Current extent (ha)		Remaining %
	% in reserves/DEC- managed land			
Jarrah Forrest	4,506,674	2,426,079	53.8%**	10.4%
LGA Shire of Waroona	83,508	50,761	60.8%*	
Mattiske vegetation complex				
Darling Scarp (DS)				
291,043				
126,045				

43.3%
Beard vegetation associations
3
4
3,046,385
1,247,834
2,197,837
292,993
72.1%**
23.5%**
10.1%
14.8%

* (Shepherd et al. 2001)
** (Shepherd 2006)
***(EPA, 2006)

Methodology
Commonwealth of Australia (2001)
EPA (2006)
Heddle et al. (1980)
Shepherd (2006)
GIS Databases:
Heddle Vegetation Complexes
NLWRA, Current Extent of Native Vegetation
Pre-European Vegetation

(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 five Conservation Category Wetlands (CCW) located within a 5km radius of the area under application, the closest of which is located approximately 3.9km southwest of the applied area. In addition there are a number of Multiple Use Wetlands within the local area, the closest being situated approximately 800m to the west. The closest watercourse is an un-named minor Tributary which is located approximately 1.2km south of the applied area.

Given the distance to the nearest watercourse, and that no wetland dependant vegetation was observed on site, 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 - 26/02/2008
GIS Databases:
Geomorphic Wetlands (Classification), Swan Coastal Plain
Hydrography, linear (hierarchy)

(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 soils within the area under application are described as red earths, with associated soils containing ironstone gravels (Northcote et al, 1968). These soils 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.

According to Agmaps (State of Western Australia 2005) the main land degradation risk associated with the removal of vegetation on the identified soil type is considered to be Phosphorous export and water erosion. The clearing of native vegetation is unlikely to impact on the export of phosphorous and the slope of the land will enable water run off to flow into the proposed dam.

Given this and the limited size (0.8ha) of the area under application, it is considered likely that the proposed clearing would cause water erosion resulting in appreciable land degradation.

Methodology
DEC site visit 26/02/2008
State of Western Australia (2005)
GIS Databases:
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC
Salinity Risk 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

The closest reserve for conservation purposes within a 5km radius of the area under application is the Marrurup Nature Reserve which is located approximately 675 metres north of the applied area. There are also 2 System 6 Conservation Reserves located within the local area (5km radius), with the closest situated 620m north of the applied area. In addition, Dwellingup State Forest No 14 is located approximately 250m east of the area under application.

The area under application is surrounded by remnant vegetation contained within Lot 2 which has the potential to provide a corridor of movement for fauna to nearby conservation reserves. However, given the limited size (0.8ha) of the applied area and the distance 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 reserves.

Methodology

DEC site visit 26/02/2008
GIS Databases:
CALM Managed Lands and Waters
System 6 Conservation Reserves

(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 wetland is a Multiple Use Wetland which is located approximately 800m west of the applied area and the closest watercourses are the Murray River which is located approximately 1.8km to the north and an un-named
drain which is situated approximately 1.2km to the south of the area under application. The applied area is within the Harvey Estuary_Harvey River Catchment, but is not located within a Public Drinking Water Course Area (PDWSA).

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 limited size (0.8ha) of the area under application and given the distance to the nearest watercourse, it is not considered likely that proposed clearing would cause water erosion resulting in the deterioration in surface water quality.

The area under application has a nil to low risk of salinity and a nil to low risk of acid sulphate soils. Given that there is a low risk of salinity and acid sulphate soils, it is not considered likely that the proposed clearing would cause salinity or acid sulphate soils resulting in the deterioration in the quality of underground water.

Methodology

GIS Databases:
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC
Hydrographic Catchments - Catchments - DOW
Hydrographic, linear (hierarchy) - DOW
Public Drinking Water Source Areas (PDWSAs) - DOW
Salinity Mapping LM 25 - 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 1.8km from the Murray River at an elevation of between 165-175 metres. The applied area is located on well-drained soils with a low risk of water logging (State of Western Australia 2005). Given the area is limited to 0.8 hectares, it is not considered likely that the proposed removal of vegetation would impact on peak flood height or duration.

Methodology

GIS Databases:
Hydrography, linear (hierarchy) - DOW
Togographic Contours, Statewide

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

Comments

Lot 2 on Diagram 54180 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 Department of Water advice that a permit and surface water licence is not required for dam construction or

the taking of water for domestic use. (TRIM Ref: DOC47040).

In a submission, the Coolup Landcare District Committee advice that they do not have any objections to the proposed clearing for the construction of a dam for fire fighting purposes. (TRIM Ref: DOC48945).

Methodology

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Dam construction o maintenance	Mechanical Removal	0.8	The assessable criteria have been addressed, and the proposal is not likely to be at variance to any of the Clearing Principles.

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.

Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.

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.

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. (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.

Site Visit 26/02/2008, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC49681

State of Western Australia (2005) Agmaps Land Manager CD Rom.

Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. http://florabase.calm.wa.gov.au/ Accessed on 25/03/2008.

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)