Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3303/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: MR Michael Lawler

1.3. Property details

Property: LOT 1 ON DIAGRAM 72384 (COOKERNUP 6220)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
10		Cutting	Flora Harvesting

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 1000: Mosaic: Medium forest; jarrah-marri / Low woodland; banksia / Low forest; tea tree (Melaleuca spp.) (SAC Bio Datasets 15/09/2009; Shepherd, 2007)	The proposal is to clear 10 ha of native vegetation within an 11.1 ha area, which is located within Lot 1 (a 60 ha property). The proposed clearing is for the initial harvesting of grass trees for the future works of constructing fences, firebreaks, yards, a dwelling and access tracks. The area under application have been described into two vegetation habitat types: - jarrah-banksia woodland; - Melaleuca preissiana over heath in low lying areas. Sections of the area under application (~2 ha) are in completely degraded to good condition with obvious signs of disturbance weeds and historical clearing for tracks, a shed and harvesting of grass trees.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The condition of the native vegetation under application was sourced from aerial imagery and the site inspection conducted on the 24 September 2009 (DEC, 2009).
Heddle Complex: Bassendean Complex - Central and South: Jarrah-sheoak-banksia on sand dunes, to low woodland of Melaleuca spp., and sedgelands on the low-lying depressions and swamps. (Heddle et al, 1980)			
As above	Sections of the area under application (~6.4 ha) are in very good condition, having areas of localised disturbance.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	As above
As above	The area under application associated with the wetland in the north-west section (~1.6 ha) is in excellent condition, having an intact structure with minimal disturbance.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	As above

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 vegetation under application varies from completely degraded to excellent (Keighery, 1994) condition (DEC, 2009). The area comprises several vegetation types including jarrah-banksia woodland and Melaleuca preissiana over heath. A series of six vegetated wetlands in two systems extends in a north-south orientation along the length of the property. These wetlands are classed as Conservation Category Wetlands (CCWs). This vegetation under application represents both wetland vegetation and dryland vegetation, which may provide habitat for ground dwelling fauna such as Quenda, foraging habitat for the Black-Cockatoo and habitat for a range of other native fauna.

Several small locations surrounding the application area have been acquired by DEC for their significant ecological attributes, including conservation category wetlands (CCWs), EPP lakes and threatened flora. The property bounding the area to the south is a recently acquired A Class Nature Reserve; aerial imagery shows that the property under application is in similar condition and it is considered to add to the ecological values of this Nature Reserve.

The vegetation under application includes habitat suitable for rare and priority flora found in the local area. It is considered that the vegetation may include, or be necessary for the continued existence of, rare flora species Drakaea elastic and Diuris purdiei.

Given the vegetation under application may provide suitable habitat for fauna and flora of conservation significance and comprises some structurally intact vegetation; the area under application comprises a high level of biological diversity.

Methodology

References:
- DEC (2009)
- Keighery (1994)

GIS Database:
- SAC Bio Datasets 15/09/2009

(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

No fauna species of conservation significance have been recorded within the local area, the closest record is ~7.5 km south-west of the area under application, the Western Ringtail Possum.

The area proposed for clearing comprises jarrah/banksia woodland and Melaleuca preissiana over heath in low lying areas, with areas in degraded (Keighery, 1994) condition from previous disturbance to areas in excellent (Keighery, 1994) condition associated with the conservation category wetland mapped within the area under application (DEC, 2009). It is considered that this wetland may hold habitat value for native fauna in the local area (5 km radius).

The vegetation under application may provide foraging habitat for the Black-Cockatoos, as they are known to feed on a large variety of plants including Proteaceous species (e.g. banksia, hakea and grevillea), marri nuts (Corymbia calophylla), jarrah (Eucalyptus marginata) and tuart (Eucalyptus gomphocephala) (Shah, 2006).

The area under application supports wetland and dryland vegetation; many fauna move between dryland and wetland areas for feeding and breeding therefore intact dryland vegetation is important to maintain wetland values (DEC, 2008). The dryland vegetation also provides an ecological linkage among the wetlands (DEC, 2008) within Lot 1; and between the wetlands within Lot 1 and the adjacent A Class Nature Reserve.

The area under application comprises many grass trees Xanthorrhoea preissii; smaller grass trees are known to support habitat for smaller reptiles, pygmy possums, snakes, etc., while larger species (large, multiple skirts) can often support larger fauna, such as possums (De Tores, 2007). Especially in event of fire, smaller fauna may seek refuge within the internal cavities, providing some protection (De Tores, 2007). Xanthorrhoea preissii are also known to support avian fauna, such as cockatoos and honeyeaters as a reliable food source when in flower (De Tores, 2007).

Even though sections of the area under application contain vegetation in degraded (Keighery, 1994) condition, the areas containing vegetation in very good to excellent (Keighery, 1994) condition and jarrah-banksia forest may provide foraging habitat for the Black Cockatoo, and may comprise suitable habitat for a range of native fauna. Therefore, it is considered that the vegetation under application may comprise significant habitat for fauna indigenous to Western Australia.

Methodology

References:
- DEC (2008)
- DEC (2009)
- De Torres (2007)
- Shah (2006)

GIS Database:
- SAC Bio Datasets Datasets 15/09/2009

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments

Proposal may be at variance to this Principle

Two rare flora species have been recorded within 2 km radius of the area under application. Drakaea elastica is recorded within the roadside verge along the northern boundary of the property under application (~150 m

north-east) and Diuris purdiei is recorded ~1.2 km west of the area under application.

These species are known to occur in low-lying areas adjoining winter-wet swamps (Western Australian Herbarium, 1998-). The area under application this habitat; therefore, there is a high likelihood of these species occurring within the area under application,

In addition four priority flora species, Boronia capitata subsp. gracilis (P2), Acacia horridula (P3), Dillwynia dillwynioides (P3) and Acacia semitrullata (P3) are known to occur within 2 km radius of the area under application. These species occur on the same soils and within the same vegetation complexes as the area under application.

Given that the vegetation under application includes habitat suitable for rare and priority flora found in the local area, it is considered that the vegetation may include, or be necessary for the continued existence of, rare flora.

An appropriately timed flora survey in accordance with EPA Guidance Statement 51 is required to determine if the vegetation under application includes rare or priority flora.

Methodology Reference:
- Western Australian Herbarium (1998-)

GIS Databases:
- Heddle Vegetation Complexes
- Pre-European Vegetation
- SAC Bio Datasets 15/09/2009
- Soils, Statewide

(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 may be at variance to this Principle

No known Threatened Ecological Communities (TEC) have been recorded within within the local area (5 km radius), the closest record is Floristic Community Type (FCT) 09: Dense shrublands on clay flats (Vulnerable) located ~ 6.2 km south of the area under application.

The majority of occurrences of this TEC on the Swan Coastal Plain have been associated with sumplands and low-lying areas. Given the excellent (Keighery, 1994) condition (DEC, 2009) of the vegetation associated with the conservation category wetland mapped within the area under application, it is considered likely that previously unrecorded occurrences of TECs may be found within the property. Therefore, the proposal may be at variance to this Principle.

Methodology Reference:
- DEC (2009)
- Keighery (1994)

GIS Database:
- SAC Bio Datasets 15/09/2009

(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

The vegetation within the area under application is identified as a component of Beard vegetation type 1000, of which there is 26.8% of Pre-European extent remaining within the Swan Coastal Plain Bioregion (Shepherd, 2007); and Heddle Bassendean Complex Central and South, of which there is 27.0% of Pre-European extent remaining (EPA, 2006).

The Environmental Protection Authority (EPA) supports a 30% threshold level as recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000). The vegetation associations under application retain less than this 30% threshold level.

Given the current representation levels of the Heddle complex and Beard type and the areas of vegetation in excellent (Keighery, 1994) condition (DEC, 2009), it is considered likely that the vegetation under application is significant as a remnant. Therefore, the clearing proposal is at variance to this Principle.

It is also noted that only 7.5% of Beard vegetation type 1000 and 0.7% of the Heddle Bassendean complex Central And South are in secure tenure.

Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)

IBRA Bioregion*				
Swan Coastal Plain (SCP)^	1,501,208	583,140	38.8	
Shire of Harvey*	171,210	92,376	53.9	
Local area (10km radius)	31,400	~11,900	~37	
Beard vegetation types*				
1000 (within SCP)	94,175	25,235	26.8	16.1
Heddle vegetation complex**				
Bassendean Central/South	87,477	23,624	27.0	0.7

* (Shepherd, 2007)
** (EPA, 2006)
^ Area within Intensive Land Use Zone

Methodology

References:
- DEC (2009)
- EPA (2000)
- EPA (2006)
- Heddle et al (1980)
- Shepherd (2007)

GIS Databases:
- Interim Biogeographic Regionalisation of Australia
- SAC Bio Datasets 15/09/2009

(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 at variance to this Principle

Approximately 50% of the applied area is mapped a Conservation Category Wetland (CCW) and other areas under application are within the 50 m buffer to the CCW, with approximately 2 ha under application that is not mapped within the wetland or the buffer to the wetland. A site inspection (DEC, 2009) of the area under application identified areas of wetland vegetation, Melaleuca preissiana over heath.

CCWs are the highest priority wetlands which support a high level of ecological attributes and functions (WRC, 2001). There should be no further loss or degradation of CCWs and their protection also requires the retention of an adequate buffer (WRC, 2001). The minimum recommended buffer distance for wetlands is 50m and this is designed to protect wetlands from potential deleterious impacts while helping safeguard and maintain ecological processes and functions within the wetland and, whenever possible, in the buffer (WRC, 2001).

Given that a Conservation Category Wetland occurs within the area under application, vegetation under application is within the recommended 50 m buffer to the wetland and wetland vegetation was observed on site; the vegetation under application is considered to be growing, or in association with, an environment associated with a wetland that has significant environmental values. Therefore, the clearing as proposed is at variance to this Principle.

Methodology

References:
- DEC (2009)
- WRC (2001)

GIS Databases:
- ESA_DEC 15/09/2009
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

(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 landscape of the area under application and surrounds can be described as subdued dune-swale terrain (Northcote et al, 1960-68). The chief soils are leached sands (Northcote et al, 1960-68).

The identified sandy soils may be at risk of wind erosion and are known to have a low Phosphorus Retention Index. It is considered that the proposed clearing of deep-rooted perennial vegetation may result in increased nutrient loss from the soil profile (McPharlin et al, 1990). In addition, the low-lying areas associated with the wetland may be at risk of water erosion and waterlogging.

Given the sandy soils and wetland present within the area under application, it is considered that the proposed clearing of 10 ha of native vegetation may cause appreciable land degradation in the form of wind erosion,

water erosion, waterlogging and eutrophication. Therefore, it is considered that clearing as proposed may be at variance to this Principle.

Methodology References:
- McPharlin et al (1990)
- Northcote et al (1960)

GIS Databases:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Soils, 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 at variance to this Principle**

The two closest conservation reserves to the area under application are an unnamed Class A Nature Reserve (Lot 1021) located adjacent to the southern boundary of Lot 1 and Riverdale Nature Reserve located ~800 m west north-west of the area under application.

The proposed clearing may indirectly impact on the environmental values of the adjoining Class A Nature Reserve through the spread or introduction of weed species or dieback by machinery. The consequences associated with the spread of such exotic species into areas reserved for conservation, include the significant degradation of the reserve and the potential local extinction of species. Aerial imagery of the local area shows vegetated connectivity in an east-west and north-south direction, which is likely to provide an ecological linkage from the Lot 1 to the adjoining conservation area and Riverdale Nature Reserve.

Further, the area under application supports wetland and dryland vegetation; many fauna move between dryland and wetland areas for feeding and breeding therefore intact dryland vegetation is important to maintain wetland values (DEC, 2008). The dryland vegetation also provides an ecological linkage among the wetlands (DEC, 2008) within Lot 1; and between the wetlands within Lot 1 and adjacent A Class Nature Reserve.

Given the connectivity to the adjacent and nearby conservation areas and the indirect impact through the spread of weeds and dieback; it is considered likely that the clearing as proposed will impact on the environmental values of nearby conservation areas.

Methodology Reference:
- DEC (2008)

GIS databases:
- Cadastre
- DEC Managed Lands and Waters
- Pinjarra 50cm Orthomosaic - Landgate 2006

(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**

Approximately 50% of the applied area is mapped a Conservation Category Wetland (CCW) and other areas under application are within the 50 m buffer to the CCW, with approximately 2 ha under application that is not mapped within the wetland or the buffer to the wetland.

CCWs are the highest priority wetlands which support a high level of ecological attributes and functions (WRC, 2001). There should be no further loss or degradation of CCWs and their protection also requires the retention of an adequate buffer (WRC, 2001). The minimum recommended buffer distance for wetlands is 50m and this is designed to protect wetlands from potential deleterious impacts while helping safeguard and maintain ecological processes and functions within the wetland and, whenever possible, in the buffer (WRC, 2001).

Given the identified sandy soils and high phosphorous retention index the soils may be at risk of eutrophication. In addition, the low-lying areas associated with the wetland may be at risk of water erosion and waterlogging.

The area under application is not located in a Public Drinking Water Source Area. The area under application is considered to have approximately 6 ha of low salinity risk and approximately 4 ha of moderate to high salinity risk.

The area under application comprises wetland dependant vegetation, areas within the buffer and areas considered to have a high salinity risk and may be at risk of water erosion, wind erosion and eutrophication. Therefore, it is considered the clearing as proposed may cause deterioration in the quality of surface water of the wetlands within and adjacent to the area under application.

Methodology References:
- WRC (2001)

GIS Databases:
- ESA_DEC 15/09/2009
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

(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 may be at variance to this Principle

Approximately 50% of the applied area is mapped a Conservation Category Wetland (CCW). The low-lying areas associated with the wetland may be at risk of waterlogging. The removal of the vegetation under application may cause or increase the incidence or intensity of localised waterlogging and flooding.

Methodology

GIS Database:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

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

Comments

DEC sent a letter dated 15 October 09 to the applicant, inviting comments on the identified environmental issues. As of Monday 9 November no formal response has been received from the applicant.

The Acid Sulphate Soil (ASS) risk mapping indicates the areas under application are mapped as having a Class 2 risk. This classification is defined as having a moderate to low risk of shallow (<3m depth) of ASS or potential ASS. Therefore, given that the areas under application have been identified as having a moderate to low risk of potential acid sulphate soils, the disturbance of these areas may result in appreciable land degradation through acidity.

The area under application was assessed in 2007 (CPS 1849/1), this application was refused on 24 April 2008.
The Shire has not provided any comments for the proposal.

The Department is investigating alledged unauthorised clearing of native vegetation within Lot 1 Riverdale Road (ICMS ID 16000).

The proponent submitted an application for a Producer's Nurseryman's Licence to sell harvested Xanthorrhoea species; the application was refused.

Carnaby's Black-Cockatoo is classified as Endangered under Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999. The clearing as proposed may result in a loss of habitat and foraging sites for this species; therefore, the proposal is likely to require referral to the Commonwealth Department of Environment Heritage Water and the Arts (DEHWA) under the EPBC Act 1999 for Carnaby's Black Cockatoo.

Lot 1 Riverdale Road is freehold land and is zoned General Farming under the Shire of Harvey TPS No. 1.

Methodology

GIS databases:
- Cadastre
- Town Planning Scheme Zones

4. Assessor's comments

Comment

The assessable criteria have been addressed and the clearing as proposed is at variance to Principles (a), (e), (f) and (h); and may be at variance to Principles (b), (c), (d), (g), (i) and (j).

5. References

De Tores, P (2007). Unpublished work from Western Ringtail Possum translocation research, Department of Environment and Conservation, Dwellingup Research Centre, Western Australia.

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DEC (2009) Site Inspection Report for Clearing Permit Application CPS 3303/1, Lot 1 Rivervale Road, Shire of Harvey. Site inspection undertaken 24/09/2009. Department of Environment and Conservation, Western Australia. TRIM Ref DOC100898

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,

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EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.

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Water and Rivers Commission (1996) Policy and Guidelines: Granting of Licences to Clear Indigenous Vegetation in Catchments Subject to Clearing Control Legislation. Water and Rivers Commission, Western Australia.

Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. http://florabase.dec.wa.gov.au/ (Accessed 6/10/2009).

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)