Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3277/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: MR Alexander James Simpson

1.3. Property details

Property: LOT 2 ON DIAGRAM 83680 (Lot No. 2 KENT RIVER SIDING BOW BRIDGE 6333)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
7.7		Mechanical Removal	Horticulture

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 vegetation under application is mapped as Beard Vegetation Association 1 and 3. Beard Vegetation Association: 1 - Tall forest; karri (Eucalyptus diverscolor) Beard Vegetation Association: 3 - Medium forest; jarrah (Eucalyptus marginata) and marri (Corymbia calophylla) The dominant Mattiske vegetation complex is COLLIS 1 (COy1): Tall open forest to woodland of Eucalyptus marginata subsp. marginata - Corymbia calophylla (Marri) - Banksia grandis (Bull Banksia) - Allocasuarina fraseriana (Sheoak) on low hills and with Allocasuarina decussata (Karri Sheoak) on slopes in perhumid and humid zones. The less represented Mattiske vegetation complexes are: GRANITE VALLEYS (V4): Tall open forest of Eucalyptus diversicolor (Karri) - Allocasuarina decussata (Karri Sheoak) - Agonis flexuosa (Peppermint) with Eucalyptus patens (Blackbutt) and Corymbia	The proposal is to clear 7.7 ha of native vegetation within Lot 2 Kent River Spring Road Plantagenet for horticulture and firebreaks. The application area consists of open forest, tall heath, tea tree flats and sedgeland communities with ground cover, middle storey and occasional overstorey. Dominant species are Banksia illicifolia, Beaufortia sparsa, Callistachys lanceolata, Eucalyptus marginata, Melaleuca rhapiophylla, Pteridium esculentum, Taxandria juniperina and Taxandria parviceps with ground cover of sedges (e.g. Meeboldina sp, Gymnoschoenus sp and Taraxis grossa). The application area has no signs of disturbance, evidence of recent fires or stock grazing. Low-lying, water-logged areas and riparian vegetation can be seen throughout the site. Some Bandicoot diggings and trees with hollows were observed on site (DEC 2009).	Pristine: No obvious signs of disturbance (Keighery 1994)	Vegetation condition was confirmed during DEC site inspection on 16/09/2009. Apart from the fire break along the northern boundary, there is no evidence of any disturbance, recent fires or stock grazing within the area under application (DEC 2009).

calophylla (Marri) on slopes at the interface between granite hills and the southern coastal plain, with some shrublands of Myrtaceae spp. in hyperhumid and perhumid zones.

OWINGUP (OW): Mosaic of open woodland of Allocasuarina fraseriana (Sheoak) - Banksia attenuata (Slender Banksia) - Banksia ilicifolia (Holly-leaved Banksia), low open woodland of Melaleuca rhaphiophylla (Swamp Paperbark) - Taxandria juniperina (Wattie), low open woodland of Melaleuca cuticularis (Saltwater Paperbark) and tall shrubland of Melaleuca densa on broad swamps and plains in the hyperhumid zone.

(Mattiske & Havel 1998; Shepherd et al. 2007)

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 to remove 7.7 ha of vegetation considered to be in 'pristine' (Keighery 1994) condition for the purpose of horticulture and firebreaks. Except for a fire break along the northern boundary, there is no evidence of any disturbance, recent fires or stock grazing within the area under application (DEC 2009).

The application area consists of open forest, tall heath, tea tree flats and sedgeland communities with ground cover, middle storey and occasional overstorey. There are low-lying, water-logged areas and riparian vegetation throughout the site where frogs (e.g. Crinia georgiana) are present. The vegetation includes Banksia illicifolia, Beaufortia sparsa, Callistachys lanceolata, Eucalyptus marginata, Melaleuca rhapiophylla, Pteridium esculentum, Taxandria juniperina and Taxandria parviceps with ground cover of sedges (e.g. Meeboldina sp, Gymnoschoenus sp and Taraxis grossa). Bandicoot diggings and trees with hollows are present within the area under application (DEC 2009).

Seventeen priority flora species are known to occur within the local area (10 kilometre radius). The closest known record is Anthocercis sylvicola (P3), located approximately 420 metres north east of the proposal area. A further three priority species are located within 2 kilometres of the applied area, all of which occur on the same soil type as the application area.

A priority ecological community (PEC) is known to occur approximately 5.8 kilometres from the area under application; this PEC occurs within different soil and vegetation types to that of the applied area.

The native vegetation cover in the local area (10 kilometre radius) is estimated to be approximately 40 percent. There are several conservation areas within the local area (10 kilometre radius), the closest, Mehniup Nature Reserve, is situated 800 metres north west of the application area.

The vegetation under application may represent high levels of biological diversity and may offer significant habitat for a range of indigenous fauna. The wetland adjacent to the application area may be impacted by the proposed clearing through increased runoff. This wetland may provide important habitat for aquatic fauna.

Methodology

DEC (2009)
Keighery (1994)
GIS Databases:
- CALM Managed Lands and Waters - CALM 01/07/05
- Denmark 1.4m Orthomosaic - Landgate 2001
- NLWRA, Current Extent of Native Vegetation 20/01/01
- SAC Biodatasets - accessed 02/09/09

(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

Seven species of threatened fauna are known to occur within the local area (10 kilometre radius): Australasian Bittern (Botaurus poiciloptilus), Sunset frog (Spicospina flammocaerulea), Quokka (Setonix brachyurus) and Brush-tailed Phascogale (Phascogale tapoatafa ssp) and fish species such as Western Trout Minnow (Galaxias truttaceus hesperius), Balston's Pygmy Perch (Nannatherina balstoni) and the Black-stripe Minnow (Galaxiella nigrostriata). The closest recorded threatened species was the Australasian Bittern (Botaurus poiciloptilus), recorded 2.3 kilometres from the applied area.

The application area consists of open forest, tall heath, tea tree flats and sedgeland communities with ground cover, middle storey and occasional overstorey. The vegetation is in 'pristine' (Keighery 1994) condition. Dominant species are Banksia illicifolia, Beaufortia sparsa, Callistachys lanceolata, Eucalyptus marginata, Melaleuca rhapiophylla, Pteridium esculentum, Taxandria juniperina and Taxandria parviceps with ground cover of sedges (e.g. Meeboldina sp, Gymnoschoenus sp and Taraxis grossa). The application area has no signs of disturbance, evidence of recent fires or stock grazing. Low-lying, water-logged areas and riparian vegetation can be seen throughout the site. (DEC 2009)

Given the structure and 'pristine' (Keighery 1994) condition of the vegetation and presence of wetlands nearby, it is likely that the area under application is significant as habitat for the threatened fauna species (DEC 2007).

Priority fauna species such as the Water-rat (Hydromys chrysogaster) (P4), Hooded Plover (Charadrius rubricollis) (P4), Quenda (Isoodon obesulus fusciventer) (P5) and the Western Ground Parrot (Pezoporus wallicus flaviventrus) are also present within the local area (10 kilometre radius) and may utilise the application area as habitat (DEC 2007).

Methodology

DEC (2009)
DEC (2007)
Keighery (1994)
GIS Databases:
- CALM Managed Lands and Waters - CALM 01/07/05
- Denmark 1.4m Orthomosaic - Landgate 2001
- SAC Biodatasets - Accessed 02/09/09

(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 species of rare flora are known to occur within the local area (10 kilometre radius): Diuris drummondii and Drakaea micrantha, located approximately 5.2 kilometres south-SE and 8.1 kilometres west of the applied area, respectively. Both rare flora are known to occur within the same soil type as the application area.

Diuris drummondii is found in low-lying depressions in peaty and sandy clay swamps that contain water into the summer. Drakaea micrantha inhabits infertile grey sands in common sheoak (Allocasuarina fraseriana) and jarrah (Eucalyptus marginate) woodland or forest, and on old firebreaks and in disturbed sites. (Brown et al. 1998)

The application area consists of open forest, tall heath, tea tree flats and sedgeland communities with ground cover, middle storey and occasional overstorey. There are low-lying, water-logged areas and riparian vegetation throughout the site. Site photos show the presence of grey sandy soils on the northern firebreaks. No rare flora was identified as occurring within the applied area, however a flora survey was not undertaken. (DEC 2009)

Given the presence of potential habitat types within the proposal site, 'pristine' (Keighery 1994) condition of the vegetation and similarities in soil types with the rare flora that occur in the local area, the area under application may support rare flora species.

Methodology

Brown et al. (1998)
DEC (2009)
GIS Databases:
- Denmark 1.4m Orthomosaic - Landgate 2001
- SAC Biodatasets - Accessed 02/09/09
- Soils, Statewide - DA

(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 (10 kilometre radius).

Methodology GIS Databases:
- Denmark 1.4m Orthomosaic - Landgate 2001
- SAC Biodatasets - Accessed 02/09/09

(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 has components of the Beard and Mattiske vegetation types mapped for the area (DEC 2009). The proposed clearing is to remove 7.7 ha of vegetation in 'pristine' (Keighery 1994) condition for horticulture and firebreaks. Except for a fire break along the northern boundary, there is no evidence of any disturbance, recent fires or stock grazing within the area under application (DEC 2009).

The majority of the area under application is mapped as consisting of Mattiske vegetation complex COy1, which has approximately 85.2 percent of pre-European levels of vegetation remaining (Mattiske & Havel 1998).

The Environmental Protection Authority (EPA) supports a 30 percent 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).

As the table below indicates, the vegetation types under application retain more than the EPA supported threshold level.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Warren	835,925	675,836	80.8	82.4
Shire				
Shire of Denmark	192,821	150,441	78.0	77.3
Beard vegetation type*				
1	12,552	6,942	55.3	22.6
3	78,441	65,064	83.0	84.0
Mattiske**				
COy1 (Collis 1) (dominant)	228,751	192,244	84.0	
Granite Valleys	54,178	52,345	96.6	
OW (Owingup) (eastern tip)	11,291	9,274	82.1	

* Shepherd et al. (2007)
** Mattiske & Havel (1998)

Methodology DEC (2009)
EPA (2000)
Keighery (1994)
Mattiske & Havel (1998)
Shepherd (2007)
GIS Databases:
- Interim Biogeographic Regionalisation of Australia - EA
- Local Government Authorities - DOLA
- Mattiske Vegetation - CALM
- SAC Biodatasets - Accessed 02/09/2009

(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

The applied area is situated approximately 120 metres south of a major perennial river that feeds to the Owingup Swamp System which is located approximately 1.1 kilometres to the south. In addition to the Owingup Swamp System, there are several other EPP Wetlands in the local area (10 kilometre radius). A tributary of Kent River is flowing approximately 1.7 kilometres to the south and up to 14 perennial swamps exist in the vicinity, with some occurring within 100 -150 metres from the applied area. There are low-lying, water-logged areas and riparian vegetation throughout the area under application (DEC 2009).

A natural water soak is situated on the northern boundary of the property. The clearing setback between the area under application and the soak is only 15-20 metres (on average), which is inadequate to buffer this natural drainage and its riparian vegetation. A vegetated and fenced off buffer of at least 100 metres is required

to be left to reduce the nutrient and sediment inputs resulting from the proposed clearing.

Given the presence of on site water-logged areas and the close proximity between the area under application and the wetlands, the clearing as proposed will remove riparian vegetation and affect the ecological functions of these wetlands.

Methodology DEC (2009)
GIS Databases:
- ANCA wetlands - Environment Australia 26/3/99
- EPP Lakes Policy Area - DEP 14/05/97
- Denmark 1.4m Orthomosaic - Landgate 2001
- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW
- 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 applied area is mapped as consisting of soil type Cb41. This soil type is described as leached sands, some of which have thin peaty surface horizons (Northcote et al. 1960 -1968).

The risk of salinity in the area under application is minimal. Water erosion from proposed clearing is not likely to be significant given the application area has a flat topography.

Department of Agriculture and Food advised that there is potential for land degradation in the form of eutrophication; however it could be reduced if the proposal is amended to allow for the provision of a buffer of uncleared native vegetation in the area of shallow water table as shown on the scan (attached with the report). The areas of shallow water table are less likely to be suitable for growing avocados that prefer well drained soils. Without the recommended amendment, the proposed clearing is likely to be at variance with this Principle. (DAFWA 2009)

Methodology DAFWA (2009)
Northcote et al. (1960-68)
GIS Databases:
- Average Annual Rainfall Isohyets - WRC 29/09/98
- Groundwater Salinity, Statewide - DoW
- Salinity Risk LM 25m - DOLA
- Soils, Statewide - DA
- Topographic Contours, Statewide - DOLA

(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 many conservation areas within the local area (10 kilometre radius): Gastrolobium brownie Site (Register of National Estate), Owingup Nature Reserve, Mt Roe National Park, Frankland State Forest, Walpole-Nornalup National Park, Quarram Nature Reserve, Mehniup Nature Reserve and a Timber Reserve. The closest of them is Mehniup Nature Reserve which is located approximately 800 metres from the north-western side of the area under application.

Given the distance and the linear narrow shape of the proposed clearing, the vegetation under application is not likely to provide corridor values or buffering to the nearby conservation areas.

Methodology Keighery (1994)
GIS Databases:
- Denmark 1.4m Orthomosaic - Landgate 2001
- Register of National Estate - EA
- CALM Managed Lands and Waters - DEC
- Systems 1-5 and 7-12 Areas - DEC
GIS Databases:
- Denmark 1.4m Orthomosaic - Landgate 2001
- Register of National Estate - EA
- CALM Managed Lands and Waters - DEC
- Systems 1-5 and 7-12 Areas - DEC

(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 applied area is approximately 120 metres south of a major perennial river that feeds to the Owingup Swamp System (located approximately 1.1 kilometres to the south). A tributary of Kent River is flowing approximately 1.7 kilometres to the south. About 14 perennial swamps exist around the proposal area with the closest being 100 - 150 metres from the area under application.

The proposal is to remove 7.7 ha of vegetation in 'pristine' (Keighery 1994) condition for horticulture and firebreaks. Except for a fire break along the northern boundary, there is no evidence of any disturbance, recent fires or stock grazing within the area under application. There are low-lying, water-logged areas with riparian vegetation throughout the site. (DEC 2009)

Given that there are hydrological features within the area under application, the 'pristine' (Keighery 1994) condition of the vegetation and the large area, clearing as proposed may result in potential changes to hydrological balance and water quality in the neighbouring wetlands.

Methodology

DEC (2009)
Keighery (1994)
GIS Databases:
- Denmark 1.4m Orthomosaic - Landgate 2001
- Groundwater Salinity, Statewide - DoW
- Hydrographic Catchments - Catchments - DoW
- Hydrography, linear - DoW
- Public Drinking Water Source Areas (PDWSAs) - 07/02/06
- RiWI, Areas - DoW
- Salinity Risk LM 25m - DOLA
- Topographic Contours, Statewide - DOLA

(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

Chief soils of the application area are leached sands, some of which have thin peaty surface horizons. There are low-lying, water-logged areas throughout the site (DEC 2009). The applied area is approximately 120 metres south of a major perennial river. The applied area has a flat topography with a mean annual rainfall of 1100 milimetres.

Due to the significant area of proposed clearing (7.7 ha) and its close proximity to a major perennial watercourse (120 metres from the northern areas to be cleared), high regional rainfall (1100 milimetres /annum) and poorly drained flat topography, flooding on and offsite may be exacerbated by the proposed clearing.

Methodology

DEC (2009)
GIS Databases:
- Hydrographic Catchments - Catchments - DoW
- Hydrography, linear - DoW
- Topographic Contours, Statewide - DOLA
- Average Annual Rainfall Isohyets - WRC 29/09/98

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

Comments

The area under application falls within the EPA defined agricultural area (EPA 2000) and the proposed clearing is for horticulture development.

DAFWA (2009) advised that there is potential for land degradation in the form of eutrophication; however it could be reduced if the proposal is amended to allow for the provision of a buffer of uncleared native vegetation in the area of shallow water table as shown on a scan attached with the report.

Walpole/Tingledale LCDC (2009) lodged no objection to this proposal.

Shire of Denmark (2009) advised that there are no known rare and threatened flora and fauna, landscape, cultural and heritage protection requirements. Shire further advised that the clearing setback around the natural water soak on the northern boundary of the property is increased to a minimum of a 50 metre-perimeter buffer zone to ensure the conservation of this natural drainage and riparian habitat, and to provide for a low-point drainage basin that can cope with a 1 in 50 or 1 in 100 year ARI flood inundation event.

Acid sulphate soils may be present in the application area and exposed during clearing operations. It is recommended that the likelihood of such an occurrence be investigated prior to any clearing (DEC 2009).

Methodology

DAFWA (2009)
DEC (2009)
EPA (2000)
Walpole/Tingledale LCDC (2009)
Shire of Denmark (2009)
GIS database:
- Cadastre - Landgate Dec 07
- Native Title Claims - LA 2/5/07
- Town Planning Scheme Zones - MFP 31/08/98
- Country Area Water Supply Act (Part IIA) Clearing Control Catchments 29/06/2006
- Aboriginal Sites of Significance 26 April 2007

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 Principle (f), may be at variance to Principles (a), (b), (c), (g), (i) and (j) and is not likely to be at variance to Principles (d), (e) and (h).

5. References

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

DAFWA (2009) Land Degradation Advice and Assessment Report for clearing permit application CPS 3277/1. Received 18/11/2009. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia (TRIM Ref. DOC 107046).

DEC (2007) DEC Fauna Habitat Notes.xls. February 2007. Department of Environment and Conservation, Western Australia.

DEC (2009) Site Inspection Report for Clearing Permit Application CPS 3277/1, Lot 2 Kent River Spring Road, Plantagenet. Site inspection undertaken 16/09/2009. Department of Environment and Conservation, Western Australia (DEC TRIM Ref: DOC 98605).

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.

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

Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment 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.

Shire of Denmark (2009) Direct Interest Submission for Clearing Permit Application CPS 3277/1, Lot 2 Kent River Spring Road, Plantagenet (DEC TRIM Ref: DOC 98906).

Walpole/Tingledale LCDC (2009) Direct Interest Submission for Clearing Permit Application CPS 3277/1, Lot 2 Kent River Spring Road, Plantagenet (DEC TRIM Ref: DOC 97562).

6. Glossary

Term	Meaning
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
GIS	Geographical Information System
ha	Hectare (10,000 square metres)