Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2448/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: MR Vincent Andrew & Leasa Valerie Mazzardis

1.3. Property details

Property: LOT 2818 ON PLAN 255557 (House No. 4717 WANNEROO WILBINGA 6041)
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LOT 2818 ON PLAN 255557 (House No. 4717 WANNEROO WILBINGA 6041)

Local Government Area: Shire Of Gingin

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5		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
Beard vegetation association 949- Low woodland; banksia. 1011- Medium open woodland; tuart. Heddle vegetation complex- Cottesloe complex; north.	The applied area of 5 hectares is located within Lot 2818 (32ha) on plan 255557. The proposal is to clear 5 hectares of native vegetation for the purpose of horticulture. The area under application consists of open banksia and tuart woodland., ranging from very good condition through to completely degraded condition. The western portion of the area under application (~1.4 hectares) comprises an upper storey of Banksia prionotes, B. menziesii, B. attenuata, Eucalyptus gomphocephala, E. todtiana and Allocasuarina fraseriana over an understorey comprising Macrozamia riedlei, Hakea spp, Xanthorrhoea preissii, Jacksonia spp, Stirlingia latifolia, Conostylis spp, Calytrix spp and Kunzea species. The vegetation within this area has a dense understorey and leaf litter and is considered to be in very good condition. The remainder of the vegetation under	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The vegetation clearing description is based on site visit conducted by DEC officers on 29/04/2008.

application ranged from good to degraded condition, comprising an upper storey of Banksia prionotes, Eucalyptus gomphocephala and Allocasuarina fraseriana over an understorey dominated by Acacia saligna, A. pulchella and invasive non-native grasses and watsonia species. Completely degraded areas were confined to two access tracks which transect the applied area in an east-west direction.

Although there was evidence of dieback amongst the Banksia species across the site, there was strong evidence of regeneration of Acacia pulchella, A. saligna and Eucalyptus saplings, particularly in the degraded areas.

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 vegetation under application comprises open banksia and tuart woodland. The upper storey predominantly consists of Eucalyptus gomphocephala, E. todtiana, Banksia attenuata, B. menziesii and Allocasuarina fraseriana over an understorey comprising Acacia pulchella, A. saligna, Macrozamia riedlei, Xanthorrhoea preissii, Hakea spp, Kunzea spp, Jacksonia spp, Stirlingia latifolia, Conostylis spp, Calytrix species and non-native grasses.

The vegetation confined to the western portion under application (approximately 1.4ha) is in very good condition. The upper storey predominantly consists of Banksia prionotes, B. menziesii, B. attenuata, Eucalyptus gomphocephala, E. todtiana and Allocasuarina fraseriana over a dense litter layer and understorey comprising Macrozamia riedlei, Hakea spp, Xanthorrhoea preissii, Jacksonia spp, Stirlingia latifolia, Conostylis spp, Calytrix spp and Kunzea species.

The remainder of the vegetation under application ranged from good to degraded condition, comprising an upper storey of Banksia prionotes, Eucalyptus gomphocephala and Allocasuarina fraseriana over an understorey dominated by Acacia saligna, A. pulchella and invasive non-native grasses and watsonia species. Completely degraded areas were confined to two access tracks which transect the applied area in a east-west direction.

Within the local area (5km radius) there are four known populations of priority flora, the closest Conostylis pauciflora subsp. pauciflora (P4) and Grevillea thelemanniana (P4) are respectively located 1.5km and 1.7km northeast of the applied area and are found within the same vegetation complex and soil type as the area under application. Whilst the vegetation under application may provide suitable habitat for C. pauciflora subsp. pauciflora, it would not be suitable habitat for G. thelemanniana which is associated with winter-wet low lying flats (Western Australian Herbarium, 1998).

Given that the vegetation within the western portion under application may comprise a high level of flora diversity and may provide suitable habitat for the priority flora Conostylis pauciflora subsp. pauciflora, the proposed clearing may be at variance to this Principle.

Methodology

DEC Site Visit - 24/04/2008
West Australian Herbarium (1998)
GIS Databases:
Heddle Vegetation Complexes
SAC Biodata sets16/01/2008
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 not likely to be at variance to this Principle

There is one record of a fauna species of conservation significance within the local area (5km radius), being:

- Carnaby's Black-Cockatoo (Calyptorhynchus latirostris) (EN) located approximately 1.5km south.

The area under application is located within the distribution range of the Carnaby's Black-Cockatoo, which nest in large hollows of Eucalyptus trees and forage on the seeds and nectar from the flowers of Banksia spp, Eucalyptus spp. and Hakea species (Burbidge 2004). Although no trees of hollow bearing age were observed during the DEC site visit, the vegetation under application has the potential to provide suitable feeding habitat for the Carnaby's Black-Cockatoo.

The vegetation under application in good or better condition comprises Eucalyptus species, Banksia Prionotes, B. attenuata, B. menziesii and Allocasuarina fraseriana over an understorey dominated by Xanthorrhoea preissi, Macrozamia riedlei, Hakea spp, Kunzea spp, Jacksonia spp, Stirlingia latifolia, Conostylis spp, Xanthorrhoea preissii and Calytrix species which may provide some habitat for ground dwelling species such as the Quenda.

Although the vegetation under application may provide some foraging habitat for local fauna species, it is not considered to be significant, given the applied area is surrounded by a larger remnant. This vegetation was observed to be in the same or better condition as that found within the area under application.

It is therefore not considered likely that the area under application comprises significant habitat for fauna indigenous to Western Australia.

Methodology

Burbidge (2004)
DEC Site Visit - 24/04/2008
GIS Databases:
SAC Biodata sets - accessed 8/07/2008

(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 three known populations of the rare flora (DRF) Eucalyptus argutifolia, the closest of which is located approximately 3.1km southwest of the applied area.

E. argutifolia is a smooth barked mallee occurring in shallow sands over limestone in association with slopes and gullies of limestone ridges (Western Australian Herbarium, 1998). Although E. argutifolia is found within the same vegetation complex as the area under application, it is found within a different soil type to the applied area. A site visit (DEC 2008) did not identify any limestone ridges on site.

Given that E. argutifolia occurs within a different soil type to the area under application and that no limestone ridges were observed within the applied area, it is not considered likely that the vegetation under application would include significant habitat for the identified rare flora species.

Methodology

DEC Site Visit - 24/04/2008
West Australian Herbarium (1998)
GIS Database:
Heddle Vegetation Complexes
SAC Biodata sets - accessed 8/07/2008
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 14 known occurrences of a Threatened Ecological Community (TEC) within the local area (5km radius). These TEC's are identified as Floristic Community Type (FCT) 26a: Melaleuca huegelii - Melaleuca acerosa shrublands on limestone ridges, located approximately 1km north of the area under application.

Given that the vegetation under application comprises banksia woodland with no limestone ridges, it is not considered likely that the vegetation under application comprises the whole or part of, or is necessary for the maintenance of a threatened ecological community.

Methodology

DEC Site Visit - 24/04/2008
GIS Database:

SAC Bio datasets - accessed 8/07/2008

(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

Heddle et al. (1980) defines the vegetation under application as Cottesloe Complex North of which there is 71.1% of pre-European extent remaining (EPA 2006). The vegetation under application is also described as Beard vegetation association 949 and 1011 of which there is 57% and 86.5% respectively of pre-European extent remaining (Shepherd 2006).

The area under application is located within the Shire of Gingin, within which there is 56.3% of pre-European extent remaining.

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 of Pre-European settlement (Commonwealth of Australia 2001).

Given the current representation levels of the vegetation under application and the fact that there is a large conservation reserve located within the local area which comprises of the same vegetation types, it is not considered likely that the vegetation under application is significant as a remnant.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregions				
Swan Coastal Plain*	1,501,456	571,758	38.1	32.7
Shire of Gingin *	315,560	177,688	56.3	
Beard Vegetation type:*				
949	218,204	124,461	57.0	23.1
Beard Vegetation type:*				
- 1011	1,266	1,083	86.5	22.7
Heddle Vegetation complex**				
Cottesloe complex- north	21,412	15,216	71.1	9.9

Shepherd 2006*
EPA 2006**

Methodology

Commonwealth of Australia (2001)
EPA (2006)
Shepherd (2006)
Shepherd et al. (2001)
GIS Databases:
Heddle Vegetation Complexes
Interim Biogeographic Regionalisation of Australia
SAC Bio datasets - Accessed 8/07/2008

(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 is one wetland located within the local area (5km radius), a Conservation Category Wetland (CCW) which is located approximately 210m southeast of the area under application. In addition, the nearest watercourse is Quin Brook which is located approximately 14.5km northeast of the area under application and a wetland 'Loch McNess' which is located approximately 6.7km south of the applied area.

Although there were no obvious streams or wetlands present in the area under application, the DEC site visit (2008) did identify a pocket of Kunzea spp. within the applied area. Kunzea is known to occur within seasonally waterlogged and winter wet areas, however it is not considered to be wetland dependant vegetation. Aerial imagery shows distinct vegetation change between the CCW and the vegetation under application.

Given this, the distance to the nearby wetland and watercourse and that the applied area is located higher in the landscape than the CCW, the vegetation under application is not considered likely to be growing in, or in association with, an environment associated with a watercourse or wetland.

Methodology DEC Site Visit - 24/04/2008
GIS Databases:
Geomorphic wetlands (Mgt Catergories)- Swan Coastal Plain- DEC
Hydrography, linear
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 may be at variance to this Principle

The soils within the area under application are described as well-drained siliceous brown sands (Northcote et al, 1968) which have a low risk of water erosion and waterlogging.

Although generally there is a low salinity risk associated with these soils, salinity risk mapping has identified a small portion (0.1ha) within the applied area as having a high salinity risk due to the position lower in the landscape. However, given the limited size (0.1ha) of the area identified as being at risk, it is not considered likely that the proposed clearing would result in any significant increase in salinity.

The main land degradation risk associated with the removal of vegetation on site is considered to be nutrient export and wind erosion. The soils within the applied area are also known to have a low Phosphorous Retention Index (PRI), and it is considered that the proposed clearing of 5 hectares of deep-rooted perennial vegetation may result in increased nutrient loss from the soil profile.

The high wind erosion potential is due to the sandy nature of the soil and without appropriate vegetation cover, windbreaks or adequate dust suppression on exposed surfaces the proposal may result in appreciable land degradation.

Given the eutrophication and wind erosion risk, it is considered likely that the proposed clearing may lead to appreciable land degradation.

Methodology DEC Site Visit - 24/04/2008
Northecoate et al (1960)
GIS Database
Salinity Risk LM 25m - DOLA 00
Soils, Statewide
Topographic Contours 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 not likely to be at variance to this Principle

The vegetation under application is located in close proximity to Gnangara-Moore River State Forest which is located approximately 35 metres west of the applied area. The Gnangara-Moore River State Forest encompasses Lot 2818 on the northern and western boundary and covers a total area of 5,695 hectares.

Although the area under application comprises vegetation in good or better condition, given the distance to and the large total area of the State Forest, it is not considered likely that the proposed clearing will have a direct or indirect impact on the environmental values of any adjacent or nearby conservation area.

Methodology GIS Databases
DEC Managed Lands and Waters- CALM 1/07/05
Swan Coastal Plain North 20cm Orthomosaic - DLI06

(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 area under application is situated within the Gnangara Underground Water Pollution Control Area (UWPCA) and is located within a Priority 2 Public Drinking Water Source Area (PDWSA). Priority 2 (PDWSA) areas cover land where there is low risk development, such as low intensity rural areas, or where development with conditions is allowed so risk of pollution to the water source is minimised. The Department of Water (2008) advise that orchards are considered a conditional land use, provided water contamination risks are managed appropriately.

The nearest wetland, a Conservation Category Wetland (CCW) is located approximately 210m southeast of the applied area and the closest watercourse is Quin Brook which is located approximately 14.5km northeast of the area under application. Given the high infiltration rates of the sandy soils identified within the applied area, and the distance to the nearest wetland, it is not considered likely that the proposed clearing would cause water erosion resulting in a deterioration in surface water quality.

Although generally there is a low salinity risk associated with these soils, salinity risk mapping has identified a small portion (0.1ha) within the applied area as having a high salinity risk due to its position lower in the landscape. However, given that groundwater salinity in the local area is <500mg/L and given the limited size (0.1ha) of the area identified as being at risk, it is not considered likely that the proposed clearing would cause a deterioration in the quality of the underground water.

Methodology

GIS Databases:
Hydrographic Catchments - Catchments
Hydrography, linear (hierarchy) - DOE 13/4/05
Public Drinking Water Source Areas (PDWSA's) - DOE 09/08/05
Salinity Risk LM 25m- DOLA 00
Swan Coastal Plain North 20cm Orthomosaic - DLI06
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

The area under application is located approximately 14.5km east of Quin Brook and approximately 179 metres northwest of a Conservation Category Wetland, at an elevation of 30-40 metres.

Given the distance to the nearest wetland and watercourse and the high infiltration of the soils on site, it is not considered likely that the proposed removal of vegetation would impact on peak flood height or duration.

Methodology

GIS Databases:
Geomorphic wetlands (Mgt Catergories)- Swan Coastal Plain- DEC
Hydrography, linear (hierarchy)
Soils, Statewide
Topographic Contours, Statewide ? DOLA 12/09/02

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

Comments

Lot 2818 on Plan 255557 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 19993.

There are no aboriginal sites of significance within the applied area.

The area under application is zoned rural and is freehold land owned by Mr and Mrs Mazzardis.

Correspondence from Department of Planning and Infrastructure advises that Lot 2818 falls within the boundary of the Gnangara Underground Water Pollution Area (UWPA) and is to be re-gazetted from a Priority 1 Public Drinking Water Source Area (PDWSA) to a Priority 2 PDWSA (TRIM Ref: DOC 50714).

The Department of Water advise that the applied area is within a Priority 2 Public Drinking Water Source Area (PDWSA) and that the proposed land use and business is a compatible (with conditions) in a Priority 2 PDWSA (TRIM ref: DOC6187).

The Department of Water advise that within the Gnangara land use compatibility table, orchards are classified as a conditional land use, provided water contamination risks are managed appropriately (TRIM ref: DOC65187). The application of fertilizers and pesticides on the proposed orchard is likely to increase the risk of nutrient export and there is the potential for water contamination.

Mr Mazzardis has a license to take water from the Waters and Rivers Commission under the following conditions.

- Annual water entitlement of 200,000kL.
- Taking of water for domestic purposes, irrigation of 0.4ha of plant nursery and irrigation of 10ha of orchard.
- That the licensee shall have the irrigation project completed by 1 June 2009.
- The licensee shall install and maintain a cumulative water meter of a type authorised under the Rights and Irirgation Order 2003 and the meter must be installed in accordance with the meter manufacture?s specifications.
- That the licensee shall record the volume of water withdrawn monthly and forward the information to the Waters and Rivers Commission by 1 June each year.
- The licensee shall not use the water for lawns or gardens between 9am and 6pm except for the establishment of newly planted areas. For newly planted areas water may be used within

these hours for a period of up to 28 consecutive days, commencing from the date of planting.
- Approval from the Waters and Rivers Commission is to be obtained prior to the construction of additional and replacement wells and the modification or refurbishment of existing wells.
- Should the licensee's draw adversely affect the aquifer or other users in the area, the Waters and Rivers Commission may reduce the amount to be withdrawn.

Mr Mazzardis currently has approximately 5 hectares of orchard under irrigation. Under his current water licence he is able to irrigate up to 10 hectares of orchard.

The Department of Water (DoW) advise that providing Mr Mazzardis does not irrigate more than 10 hectares of orchard and does not exceed his water quota of 200,00kL, his water license would incorporate his current clearing application for an additional 5 hectares of orchard. If Mr Mazzardis were to exceed his water licence quota in terms of consumption and size of irrigated area, he would need to apply for a new water licence and would have to provide a Nutrient and Irrigation Management Plan (NIMP). Given that current water availability in the Gnangara Groundwater Area is extensively allocated, additional water may not be available. (TRIM ref: DOC65187).

Submission received from the Shire of Gingin advising that there is no Planning Consent for Irrigated Horticulture for Lot 2818 and as such the Shire does not support the application. (TRIM ref: DOC53132).

DEC Wetland Branch (2008) advise that the aerial mapping of the Conservation Category Wetland (CCW) identified within Lot 2818 has an error of 50 metres and should be located to the east of its actual boundary. Given this, the correct location of the identified CCW is situated approximately 210 metres southeast of the applied area (TRIM ref: DOC56830).

The applicant has now obtained planning consent from the Shire of Gingin for irrigated horticulture (orchard) on Lot 2818 Wanneroo Road, Wilbinga. TRIM ref: DOC63371.

Methodology

DEC (2008)
GIS Databases
Aboriginal Sites of Significance- DIA 20/03/03
Native Title Claims - DIA
Town Planning Scheme Zones - MFP 08/98
Submission (2005)
Submission (2007)
Submission (2008)
Town Planning Scheme Zones- MFP 08/98

4. Assessor's comments

Comment

The assessable criteria have been addressed and the clearing as proposed may be at variance to Principles (a) and (g), but is not considered likely to be at variance to any of the remaining clearing Principles.

5. References

DEC (2008) Advise on wetland mapping for Lot 2818; DEC Wetlands Branch. TRIM Ref: DOC56830.

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.

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

Department for Planning and Infrastructure (2005) Advise on Priority Source Protection Classification Area for Lot 2818; Department for Planning and Infrastructure. DEC Ref: DOC50714.

Department of Water (2008) Advise on Gnangara land use compatibility and water licence requirements for Lot 2818; Department of Water. DEC Ref: DOC56187.

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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Heddle, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

Hill, A.L., Semenuik, C. A, Semenuik, V. Del Marco, A. (1996) Wetlands of the Swan Coastal Plain. Volume 2b, Wetland mapping, classification and evaluation. Wetland Atlas. WRC and DEP. Perth 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.

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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 Inspection (2008) Site Inspection Report Draft, Department of Environment and Conservation (DEC), Western Australia, Trim Ref: DOC53131.
Site Inspection (2008) Site Inspection Report Final, Department of Environment and Conservation (DEC), Western Australia, TRIM Ref: DOC58299.
Submission, Direct Interest Submission, 1/05/2008, TRIM Ref: DOC53132.
Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. http://florabase.calm.wa.gov.au/ (Accessed 02/07/2008).
Western Australian Herbarium (1998?). FloraBase ? The Western Australian Flora. Department of Environment and Conservation. http://florabase.dec.wa.gov.au/ (Accessed xx/xx/xxxx).

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)