Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3090/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: **William David Duffy & Laurel May Schofield**

1.3. Property details

Property: LOT 2295 ON PLAN 124825 (House No. 149 HIGGINS PINJAR 6065)
LOT 2295 ON PLAN 124825 (House No. 149 HIGGINS PINJAR 6065)

Local Government Area: City Of Wanneroo

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
40		Mechanical Removal	Building or Structure

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
Heddle Vegetation Complex: Bassendean Complex - North: Low open forest and low woodland and sedgelands. Beard Vegetation Complex: 949: Low woodland; banksia (SAC Bio Databases (24/04/2009)	The proposal is for the clearing of 40 ha of native vegetation (within a property that is 40 ha) for the purpose of the construction of a solar power station. The majority of the area under application is parkland cleared (16ha), however the remaining vegetation includes both upland and wetland species.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	Vegetation clearing description based on a site visit conducted by DEC officers on 1st May 2009.
	The majority of the upland vegetation is in a degraded condition and consists predominantly of a shrub layer of grass trees (Xanthorrhoea sp.). However, vegetation in the northern corners of the lot occur in a good condition (~7.3ha) and consists of low shrubland of predominantly grass trees (Xanthorrhoea sp.), Lomandra sp, Verticordia sp, Patersonia occidentalis, sedges and shrubs over sparse herbs including Desmocladus sp, Alexgeorgea sp and Drosera sp. The occasional jarrah, Banksia grandis, Banksia attenuata and Nuytsia floribunda occur in the overstorey.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	
	The wetland vegetation occurs predominately in a degraded condition and consists of Melaleuca sp, over pasture weeds and occasional sedge sp. A small portion (0.3ha) of wetland vegetation occurs in the northwest corner of the lot and is in a good condition consisting of Melaleuca trees, teatree species, Regalia inops and sedge species.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	

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 area under application consists of three areas depending on the condition of the vegetation. Area 1 which contains the majority of the area under application is parkland cleared and occurs in the central portion of the property. The vegetation in the two northern corners of the area under application (area 2) occurs in a good (Keighery 1994) condition and contains upland and wetland vegetation. The upland vegetation in area 2 consists of low shrubland and is ~7.3ha in size (DEC 2008). The wetland vegetation in this area (0.3ha) occurs in good (Keighery 1994) condition and consists of Melaleuca trees, teatree species, Regalia inops and sedge species.

Area 3 occurs in the central and southern portion of the property and contains upland and wetland vegetation in a degraded (Keighery 1994) condition. The upland vegetation consists predominantly of a shrub layer of grass trees (Xanthorrhoea spp.) (DEC 2009). The wetland vegetation in this area consists of Melaleuca sp over sedges. No rare flora or Threatened Ecological Communities (TEC) occurs within the area under application.

The majority of the vegetation in the north of the area under application includes a thick understorey that may be suitable habitat for ground dwelling fauna such as snakes, lizards and the conservation significant Quenda (Isoodon obesulus fusciventer). Quenda diggings were observed during the site inspection (DEC 2009). In addition, seven dead trees containing several small hollows were observed during the site inspection that may provide habitat for parrot species.

Given that parts of the area under application contain good condition vegetation, that upland and wetland vegetation occurs within the area under application and that it may contain significant habitat for fauna in the local area, the proposed clearing may be at variance to this Principle.

Methodology

References:
- DEC (2009)
GIS Databases
-SAC Bio Databases (24/04/09)

(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

Four species of conservation significant fauna occur within the local area (5km).

The majority of the vegetation in the north of the area under application is in good condition (9 ha) and includes a thick understorey that may be suitable habitat for ground dwelling fauna such as snakes, lizards and the conservation significant Quenda (Isoodon obesulus fusciventer). Quenda diggings were observed during the site inspection (DEC 2009). In addition, seven dead trees containing several small hollows were observed during the site inspection that may provide habitat for parrot species.

Given the occurrence of 9 ha of vegetation in good condition providing habitat for ground dwelling fauna and the occurrence of habitat trees within the area under application, the proposed clearing may be at variance to this Principle.

Methodology

References:
- DEC (2009)
GIS Database:
- SAC Bio Datasets (24/04/09)

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

Comments

Proposal is not likely to be at variance to this Principle

There are no rare flora species recorded in the local area with the closest being Caladenia huegelii and Eucalyptus argutifolia occurring 6 km south east and 6.8 km west of the area under application, respectively.

Caladenia huegelii occurs in deep sandy soil in mixed woodland of jarrah and banksia and tends to favour areas of lush undergrowth. Its growth is suppressed by weed invasion (Brown et al, 1998).

Eucalyptus argutifolia occurs on shallow sand on limestone ridges and slopes where it grows in association with parrot bush (Dryandra sessilis) and Melaleucas huegelii (Brown et al, 1998).

The chief soils within the area under application are leached sands (Northcote et al. 1960-68). In addition, the vegetation under application is in a degraded to good condition and consists predominantly of a shrub layer of grass trees (Xanthorrhoea sp.), sedges and shrubs.

Given the degraded to good condition of the vegetation and the lack of limestone ridges within the area under application, it is considered unlikely for the proposed clearing to be at variance to this Principle.

Methodology References:
-Brown et al. (1998)
-Northcote et al. (1960-68)
GIS Databases:
- Heddle Vegetation Complexes
- SAC Bio Datasets 24/04/2009
- 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 is not likely to be at variance to this Principle**
There are no known occurrences of Threatened Ecological Communities (TEC) located within the local area (5km radius). The nearest recorded TEC is Floristic Community Type (FCT) 26a: Melaleuca huegelli - Melaleuca acerosa shrublands of limestone ridges and 20a: Banksia attenuata woodlands over species rich dense shrublands occurring 7 km west and 6.8 km south west of the area under application, respectively.

Given the degraded to good condition of the vegetation it is unlikely for the vegetation under application to represent a TEC. In addition, the area under application does not contain limestone ridges. Therefore, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology GIS Database:
- SAC Bio Datasets 24/04/2009

(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 not likely to be at variance to this Principle**
The vegetation within the area under application is identified as a component of Beard vegetation type 949, and Heddle Complex: Bassendean Complex North, of which there is 58.4% and 72.0% of Pre-European extent remaining respectively (Shepherd, 2007; EPA, 2006). Further, the Beard vegetation type and the Heddle vegetation complexes are well represented in secure tenure (49.4% and 27.5%) (Shepherd, 2007; EPA, 2006).

The Beard vegetation type and Heddle complex retain more than the EPA supported threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

Given the high representations of the vegetation associations and the degraded to good condition of the vegetation; the vegetation applied to be cleared is not considered significant as a remnant of native vegetation. Therefore, the clearing as proposed is considered not likely to be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain^	1,501,208	583,140	38.8	
Shire of Wanneroo*	67, 697	33, 638	49.7	47.7
Local area (5km radius)	7850	5365.9	68.3	
Beard type in Bioregion 949*	209,983	122,677	58.4	49.4
Heddle vegetation complex**				
Bassendean - North	74,147	53,384	72.0	27.5

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

Methodology References:
- Commonwealth of Australia (2001)
- EPA (2006)
- Shepherd (2007)

GIS Databases:
- Heddle Vegetation Complexes
- SAC Bio Datasets 24/04/2009

(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 area under application contains a portion of a Resource Enhancement Wetland (REW) (20.9 ha).

REWs are considered priority wetlands which may have been partially modified but still retain wetland attributes and functions (DEC 2008). The majority of the wetland portion within the area under application has been cleared for pasture, however 7.8 ha of the wetland contains native vegetation.

During the site visit wetland dependent vegetation was observed including, Melaleuca sp with the majority of the vegetation in a degraded (Keighery 1994) condition with 0.3ha in a good (Keighery 1994) condition (DEC 2009). Therefore, it is considered for the proposed clearing to be at variance to this Principle.

Methodology

References:
-DEC (2008)
-DEC (2009)
GIS Databases:
- 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 chief soils within the area under application are leached sands (Northcote et al. 1960-68). The main land degradation risk with the identified soil type is wind erosion (Department of Agriculture 2005).

Given the large area under application (40 ha) it may be considered likely for the proposed clearing to cause appreciable land degradation from wind erosion unless appropriate management measures are put in place, such as wind breaks and appropriate ground cover.

Methodology

References:
- Department of Agriculture (2005)
- Northcote et al (1960)
GIS Database:
- 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 may be at variance to this Principle

There closest conservation reserves within the local area (5km radius) are Bush Forever site 380 occurring 130m south and State Forrest which occurs on all sides of the area under application and is separated by firebreaks and a gravel road.

A site inspection (DEC, 2009) of the area under application identified the vegetation as being in a degraded to good condition. Aerial imagery of the local area shows the surrounding state forest to consist of a pine plantation and that there is no vegetated connectivity between the area under application and the nearby conservation areas. However, the area under application may act as a stepping stone of native vegetation through the landscape from the south which contains native state forest to the north which contains Bush Forever site 380.

The degraded to good (Keighery 1994) condition of the vegetation may reduce the effectiveness of this steeping stone however, it is considered that the proposed clearing may impact on the environmental values of the surrounding state forest.

Methodology

Reference:
- DEC (2009)
GIS databases:
- Bushforever
- DEC Managed Lands and Waters
- Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007

(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 area under application contains a portion of a Resource Enhancement Wetland (REW).

These wetlands are considered priority wetlands which may have been partially modified but still retain wetland attributes and functions (DEC 2008). The majority of the wetland portion within the area under application has been cleared, with 7.8 ha of the wetland containing native vegetation. Only 0.3 ha is in good (Keighery 1994) condition.

The removal of this wetland vegetation may cause deterioration in surface water quality through sedimentation. Also it may be considered likely for the proposed clearing to cause deterioration to underground water quality as the central portion of the area under application (17.5 ha) has a medium to high risk of salinity. In addition, the area under application is located within Public Drinking Water Source Area, Priority 1 Area. However, this deterioration is expected to be relatively minor due to only 0.3 ha of good (Keighery 1994) condition vegetation proposed to be cleared and that the majority of the extensive REW has been cleared and replaced with pine plantations.

Given this, it is considered likely that the proposed clearing may cause deterioration in the quality of surface or underground water.

Methodology

References:
- DEC (2008)

GIS Databases:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Public Drinking Water Source Areas (PDWSAs)
- Salinity Risk LM 25m - 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 may be at variance to this Principle

The area under application contains a portion of a Resource Enhancement Wetland (REW) (20.9 ha).

These wetlands are considered priority wetlands which may have been partially modified but still retain wetland attributes and functions (DEC 2008). The majority of the wetland portion within the area under application has been cleared, however 7.8 ha of the wetland contains native vegetation. Clearing this wetland vegetation may allow an increase of water to enter the watertable and result in an increase in flooding of the area.

Given that the 7.8 ha of wetland vegetation is proposed to be cleared it is considered likely that the Proposal may cause or exacerbate the incidence or intensity of flooding.

Methodology

References
- DEC (2008)

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

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

Comments

The proposal is for the clearing of 40 ha of native vegetation for the purpose of the construction of a solar power station.

The area under application is zoned rural under the Metropolitan Regional Scheme and the City of Wanneroo's Town Planning Scheme.

The applicant has stated that they will employ RePlant to remove and replant the grass trees from the area under application (DEC 2009).

The City of Wanneroo received a development application for the solar plant in May 2009 (DA670/2009). The City established that an amendment to the City's scheme was necessary. The City of Wanneroo is currently waiting for the Department of Planning (DoP) to approve the advertising of this amendment. The City of Wanneroo can not determine its position on the development application until the amendment is considered. The City of Wanneroo also advises that planning approval is required from the WAPC. The Department of Planning has recently advised the City of Wanneroo that further information has been requested by the Department of Water on the amendment which will not be advertised until further information has been obtained. Additional information is in regard to the property occurring within a Priority 1 Ground Water Area and is also subject to Statement of Planning Policy 2.2 - Gnangara Ground Water Area.

The area under application occurs within an area that is classed as Priority 1 of the Public Drinking Water Source Area however Department of Water (DoW) advised that it 'appears to be no reason why DOW would object to clearing of the site for the proposed solar array which would appear to lower the risk of groundwater contamination when compared to potential rural land operations on the freehold property'.

The proposal has been referred to the Environmental Protection Authority (EPA) and has been given a status of Not Assessed and no advice given for the clearing of vegetation for a solar power station on Lot 2295, Higgins Road, Pinjar (City of Wanneroo 2009).

The majority of the area under application has a moderate to low risk of Acid Sulphate Soils and 2.2 ha of the northwest corner of the area have a high to moderate risk. However, given this small affected it is not considered likely for the proposal to cause acid sulphate soils

Methodology

References
-City of Wanneroo (2009)
GIS Database
- Acid Sulphate Soils Risk
- Metropolitan Regional Scheme
- Town Planning Scheme zones
- Public Drinking Water Source Areas (PDWSAs)

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 and may be at variance to Principles (a), (b), (g), (h) and (j).

5. References

City of Wanneroo (2009) Direct Interest Submission. TRIM Ref DOC83479

DEC (2008) Memo re Standard Wetlands Advice for Native Vegetation Conservation Branch. Dated 17/07/2008. Species and Communities Branch, Department of Environment and Conservation, Western Australia (TRIM Ref. DOC59490).

DEC (2009) Site Inspection Report for Clearing Permit Application CPS 3090/1 Lot 2295 Higgins Road, Pinjar. Site inspection undertaken 01/05/2009. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC83549).

Department of Agriculture (2005) AgMaps Land Manager CD-rom for the Shires of Serpentine-Jarrahdale, Kwinana, Rockingham, Mandurah, Murray, Boddington, Waroona and Harvey. Department of Agriculture, Western Australia. ISSN: 1448-235X.

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.

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. (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.

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)