Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4107/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Gordon George and Heather Dawn Patten

1.3. Property details

Property: LOT 30 ON DIAGRAM 88386 (House No. 131 DROVERS MOUNT HILL 6528)
Local Government Area: City of Geraldton - Greenough
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5		Mechanical Removal	Extractive Industry

1.5. Decision on application

Decision on Permit Application: Refuse
Decision Date: 1 December 2011

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
Shepherd (2009) describes Beard vegetation 371 as Low forest; Acacia rostellifera; and 379 as Shrublands; scrub-heath on lateritic sandplain in the central Geraldton Sandplain Region (Shepherd 2009).	The area is mapped as Beard association 371 Low forest; Acacia rostellifera; and 379 as Shrublands; scrub heath on lateritic sandplain in the central Gerladton Sandplain Region. The area does not match the community 371, there is Acacia rostellifera shrublands nearby however not within the proposed clearing area and these appear to be associated with more disturbed vegetation. The scrub heath on lateritic sandplain generally occurs where the soil is much shallow in areas higher in the landscape. The community within the proposed clearing area is similar to this however is more of a woodland community, presumably because the sand is deeper. - Ground cover comprised of: Sedges - Ecdeocolea monostachya, Mesomelaena pseudostygia, Dianella revoluta and some dried up annual herbs - Middle storey comprised of: Hibbertia hypericoides, Macrozamia fraseri, Jacksonia angulata, Ereamea ebracteata, Isopogon cuneifolia, Olearia dampieri, Melaleuca sp.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994). Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation and clearing description is based on information obtained during a site inspection (DEC 2011).

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 proposed clearing of 5ha of native vegetation is for the purpose of extractive industry. The clearing is to occur on Lot 30 on Diagram 88386, Mount Hill in the City of Geraldton- Greenough. The vegetation is Banksia and Allocasuarina woodland and shrubland and appears to be in a very good to excellent (Keighery 1994) condition (DEC 2011).

The area is mapped as Beard association 371 Low forest; Acacia rostellifera; and 379 as Shrublands; scrub heath on lateritic sandplain in the central Geraldton Sandplain Region (Shepherd 2009). The area does not match the community 371, there is Acacia rostellifera shrublands nearby however not within the proposed clearing area and these appear to be associated with more disturbed vegetation. The scrub heath on lateritic sandplain generally occurs where the soil is much shallow in areas higher in the landscape (DEC 2011).

There are 3 known conservation significant fauna species located within the local area (20km radius) of the application area. Of these, the application area is likely to provide foraging habitat for Carnaby's black cockatoo (Calyptorhynchus latirostris) which is classified as Endangered under the Environment Protection and Biodiversity Conservation Act 1999 and Threatened under the Wildlife Conservation Act 1950.A site inspection

observed that the Banksia woodland is most likely a good feeding source for many birds, including Carnaby's black cockatoo (DEC 2011).

Given the highly cleared landscape (approximately 25% remaining vegetation within the local area), the remaining vegetation in the local area is of increased importance as an ecological linkage and providing good habitat for native fauna. The application area contains vegetation in a very good to excellent (Keighery 1994) condition, therefore the vegetation under application comprises a high level of biological diversity in an extensively cleared landscape. Given the above it is considered that the proposal is at variance to principle (a).

Methodology

References
DEC (2011)
Keighery (1994)
Shepherd (2009)
GIS Databases:
- NLWRA, Current Extent of Native Vegetation
- Dongara 50cm Orthomosaic - Landgate 2006
- Pre European Vegetation
- SAC biodata sets - accessed December 2010

(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 at variance to this Principle

There are 3 known conservation significant fauna species located within the local area (20km radius) of the application area. Of these, the application area is likely to provide foraging habitat for Carnaby's black cockatoo (Calyptorhynchus latirostris) which is classified as Endangered under the Environment Protection and Biodiversity Conservation Act 1999 and Threatened under the Wildlife Conservation Act 1950.

Carnaby's black cockatoos are known to feed on seeds, nuts and flowers of a large variety of plants including Eucalypts, Banksia, Hakea, Xanthorrhoea and Grevillea with the entire landscape of the Swan Coastal Plain considered important throughout the non-breeding season for this species (Shah 2006). Shah (2006) concludes that Banksia sp. (Dryandra sp) constitute more than half of the native plant diet of this species.

A site inspection observed that the Banksia woodland is most likely a good feeding source for many birds, including Carnaby's black cockatoo (DEC 2011). As this section of vegetation connects larger remnants of bushland; it acts as a biological corridor, as well as providing good habitat for native fauna in a highly cleared landscape (approximately 25% native vegetation remaining in the local area). Given the above it is considered that the proposal is at variance to principle (b).

Methodology

References
DEC (2011)
Shah (2006)
GIS Databases
- SAC Biodatasets - accessed December 2010

(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 is only one record of rare flora species recorded in the local area (10 km radius); Leucopogon marginatus which is recorded 3 times with the closest record 3.3km east of the application area, all of the records are on the same soil and vegetation type as the application area. However, the application area does not exhibit the characteristics of these floras's preferred habitat and is not likely to support a population of this rare species DEC 2011).

Therefore, the clearing is considered to be not likely at variance to this Principle.

Methodology

References
DEC (2011)
GIS Databases
-SAC Bio Datasets - accessed December 2010

(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 recorded occurrences of Threatened Ecological Communities (TEC's) within the local area (10km radius). Therefore, it is unlikely that the clearing as proposed is part of, or could be considered necessary for the maintenance of a TEC.

Methodology

GIS Databases

- Sac bio datasets - accessed December 2010

(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 application area is within an extensively cleared landscape and the vegetation under application is part of a larger remnant in the local area. The Shire retains 20.44% of pre-European levels of vegetation and the Geraldton Sandplains Bioregion retains 44.99% (Shepherd 2009), with the local area retaining approximately 20% native vegetation.

Beard vegetation types 371 and 379 are poorly represented and have 9.87% and 23.83% of their pre-European extent remaining within the bioregion respectively (Shepherd 2009). The application area however, does not match the community 371, there is Acacia rostellifera shrublands nearby however not within the proposed clearing area and these appear to be associated with more disturbed vegetation. The scrub heath on lateritic sandplain (Beard 379) generally occurs where the soil is much shallow in areas higher in the landscape.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

Given the vegetation under application is in very good to excellent (Keighery, 1994) condition and comprises a high level of biological, the area under application is considered significant as a remnant. The vegetation under application is also within a highly cleared landscape (approximately 25% remaining vegetation within the local area). Therefore the proposed clearing is at variance to principle (e).

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregions*			
Geraldton Sandplains	3 136 025.34	1 410 755.15	44.99
Shire*			
City of Geraldton-Greenough	177 234.54	36 228.62	20.44
Beard Vegetation Association*			
371	32 807.57	3 238.50	9.87
Beard Vegetation Association*			
379	547 736.95	130 484.07	23.82
Beard Vegetation Association within Bioregion*			
379	546 507.25	130 247.15	23.83

Methodology

References

Commonwealth of Australia (2001)
DEC (2011)
Keighery (1994)
Shepherd (2009)

GIS Databases:
- NLWRA, Current Extent of Native Vegetation
- Dongara 50cm Orthomosaic - Landgate 2006
- Pre European Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments

Proposal is not likely to be at variance to this Principle

There are no recorded occurrences of watercourses or wetlands within the local area (10km radius). Therefore, it is unlikely that the clearing as proposed is growing in, or in association with, an environment associated wiht a watercourse or wetland.

Therefore, the clearing is considered to be not at variance to this Principle.

Methodology

GIS Databases
-Hydrography linear,

(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 soil within the area under application is described as gentle, but often somewhat uneven, irregular gullied slopes below breakaways with sandy neutral yellow mottled soils containing some ironstone gravels (Northcote et al. 1960-68). Generally, these soils have a high risk of wind erosion and a low risk of water erosion due to the high infiltration rates associated with sands. The application area is also on a sand ridge.

The proposed clearing of 5 hectares for sand extraction may pose a low risk of land degradation in the form of water and wind erosion. The risk is manageable if best management practices are adopted. Therefore it is concluded that the proposed clearing may be at variance to this principle.

Wind erosion management conditions will manage and mitigate any impacts of wind erosion from the proposed clearing. Therefore, it is recommended that clearing be restricted to just prior to sand extraction occurring and that revegetation of the site be undertaken post extraction to reduce this risk.

Methodology

References
Northcote et al. (1960-68)

(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 no recorded conservarion areas within the local area (10km radius). Therefore, it is unlikely that the clearing as proposed is likely to impact on the environmenta values of any adjacent or nearby consvervation areas and therefore is not likely to be at variance to this principle.

Methodology

GIS Databases
- DEC Tenure

(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 Greenough River catchment and subcatchment, of which the vegetation proposed to be cleared is within, is highly cleared (~25% of vegetation remaining) indicating that effects of salinity may occur in this catchment as the rainfall in this part of the state is low (500mm per annum). The groundwater salinity is between 1000-3000 mg/L and the hydrogeology consists of sedimentary rocks with extensive and deep aquifers.

Given the above the proposed clearing may have a risk of salinity and therefore may be at variance to principle (i).

Methodology

GIS Databases
-Hydrography linear,
-Topography, statewide
- Groundwater Salinity
- Hydrogeology, Statewide

(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

There are no watercourses or wetlands within the area proposed for clearing. Given the sandy nature of the soil within the application area (Northcote et al 1960-68) and the scale of the proposed clearing, it is considered that the proposed clearing is not likely to be at variance to this Principle.

Methodology

References
-Northcote et al (1960-68)
GIS Databases
-Soils, statewide
-Hydrography linear

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

Comments

Town Planning Scheme Zone: Special Rural or Rural Smallholding Zone - To provide for the use of land for minor rural pursuits, conservation lots and alternative residential lifestyle purposes where part time income from cottage industries, home occupation and the use of land for agriculture may be derived, whilst preserving and enhancing landscape quality, environmental values and conservation attributes.

Local Planning Scheme No. 5 (Greenough) shows extractive industries are compatible with rural zoning, however this is discretionary and requires an application and advertising of the application.

Application area falls within the groundwater "Arrowsmith" area covered by the Rights in Water and Irrigation Act 1914. There is no application for a Water licence over Lot 30 on Diagram 88386

The proponents do not intend to carry out the clearing and sand extraction themselves. It is intended that a fairly large local company will be doing the clearing and earth works. The proponent, nor the company Patience Bulk Haulage have been liaising with or have submitted an Extractive Industry application to the City of Geraldton - Greenough (City of Geraldton - Greenough 2011).

'Towards Sustainability Policy Framework' to a goal of 'The rate of regeneration exceeds the rate of degradation in our natural and built environment. It was identified that 15% pre-European vegetation remains in the study area. 15% does not meet Federal and State targets, and as such we are keen to protect, conserve and regenerate bushland in our area to ensure ecosystems in our area are viable. The shire The vegetation and clearing description is based on information obtained during a site inspection (DEC 2011).would not be in favour of approving further clearing of vegetation (City of Geraldton-Greenough 2011).

The property is currently for sale.

The company intends to stock pile vegetation and top soil prior to sand extraction then rehabilitate the pit with this material after the resource has been removed. Details on the landform which will remain following the resource extraction were not obtained however it is expected that what is currently a sand ridge will be left as a depression following the operation. The depth of the depression may depend on the depth of the resource (DEC 2011).

The Department of Environment and Conservation (DEC) wrote to the applicant on 10 February 2011, outlining the issues with the application. To date no additional advice or withdrawal has been received by the DEC.

Methodology

References
City of Geraldton - Greenough (2011)
DEC (2011)
GIS databases
- Town Planning Schemes
- RIWI groundwater areas

4. References

City of Geraldton - Greenough (2011). CPS 4107/1 - Extractive Industries licence and native vegetation clearing. DEC ref: A364117

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

DEC (2011). Regional Advice Report, Clearing Permit Application CPS 4107/1. Site Inspection 20/01/2011 DEC ref: A364114

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.

Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.

Shepherd, D.P. (2009) 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.

5. 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)