Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1451/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: GREG ROWE AND ASSOCIATES

1.3. Property details

Property: LOT 1001 ON DIAGRAM 93388 (Lot No. 1001 GLENFIELD BEACH DRUMMOND COVE 6532)

Local Government Area: Shire Of Greenough

Colloquial name:

1.4. Application

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

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 359: Shrublands; acacia & banksia scrub Beard vegetation association 440: Shrublands; Acacia ligulata open scrub (Hopkins et al, 2001, Shepherd et al, 2001).	The majority of the area under application consisted of vegetation dominated by one Acacia sp. with a few individual trees of sheok (Casuarina sp.) and gum (Eucalyptus sp.) appearing sporadically, with no mid or understoreys. The vegetation condition appeared to fall between degraded and good with some good vegetation being found below the dune on the western side. Buffel grass covered majority of the ground while African boxthorn appeared frequently, both of which were considered to be weeds. The dune side (western side) had sandy soil while the low lying areas consisted of silty river sand. The site has been historically used as a dumping ground for rubbish. Photographs were taken from different parts of the area under application. (DEC Site Visit, 2007)	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The description and condition of the vegetation was obtained from a site visit conducted on 18 April 2007 (DEC Site Visit, 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 is not likely to be at variance to this Principle

Vegetation in the area under application is dominated by Acacia sp. The remainder of the vegetation consists mainly of weeds such as buffel grass and African boxthorn. A few individuals of Eucalyptus sp. and Casuarina sp. occur on the area. The vegetation does not appear to have a mid or understorey. Numerous tracks and rubbish dumps occur throughout the area of application. The area is surrounded by major roads, residential developments and industrial landuses. Apart from a few birds, the area under application does not appear to

support diversity of wildlife. Considering factors such as the isolation from areas of outstanding biodiversity, poor species diversity, edge effects from surrounding landuses and the historical disturbances to vegetation, the area is not likely to be representative of biodiversity. (DEC Site Visit, 2007).

Therefore, this proposal is not likely to be at variance to this Principle.

Methodology GIS Databases:
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.
DEC Site Visit (2007)

(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**
The majority of the area under application consists of vegetation dominated by one Acacia sp. with no mid or understoreys. A few individual trees of sheok and gum are scattered on the site. Weeds such as buffel grass and African boxthorn are widespread throughout the site. The vegetation appears to be degraded except for some good vegetation being found below the dune on the western side. The site has been historically used as a dumping ground for rubbish. The area is surrounded by urban transport routes, residential properties and industrial sites and not connected to larger tracts of native vegetation. Considering the isolation of the local area through human activity in surrounding areas, site disturbance, and poor diversity of plants and mostly degraded vegetation condition, the area under application is unlikely to contain or maintain significant habitats for fauna. Except for a few bird calls, presence of significant wildlife was not evident during the site visit. (DEC Site Visit, 2007)

Therefore, this proposal is not likely to be at variance to this Principle.

Methodology GIS Databases:
- Threatened Fauna - CALM 30/09/05
DEC Site Visit (2007)

(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**
Four species of Declared Rare Flora (DRF) and one species of Priority 4 Flora, one species of Priority 3 Flora, one species of Priority 2 Flora, and one species of Priority 1 Flora occur within a radius of 10km of the area under application. However, the closest of them, which is a DRF, occurs 4km away from the area under application. In addition, the area is surrounded by major roads, residential developments and industrial landuses, and is not connected to these populations of significant flora. (DEC Site Visit, 2007). The soil types where DRF and priority flora occur differ from the soil type of the area under application.

Wattle (Acacia sp.) dominates the area under application, followed by weeds such as buffel grass and African boxthorn with the occurrence of a few individual gum and sheok trees (DEC Site Visit, 2007). The area under application does not have any significant flora and does not contribute to their existence.

Therefore, this proposal is not likely to be at variance to this Principle.

Methodology GIS Databases:
- Declared Rare and Priority Flora list - CALM 01/07/05
- Clearing Regulations - Environmentally Sensitive Areas - DoE 30/05/05
- Soils, Statewide - DA 11/99
DEC Site Visit (2007)

(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 four Threatened Ecological Communities (TECs) located within 10km of the area under application. However, the soil type within the area under application differs from the soil type of the four known TECs in the local area.

Therefore, this proposal is unlikely to be at variance to this Principle.

Methodology GIS Databases:
- Threatened Ecological Communities - CALM 12/04/05
- Soils, Statewide - DA 11/99

(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 on this site is a component of Beard Vegetation Associations 359 and 440 (Hopkins et al, 2001) of which there is 18.8% and 54.9% of the pre-European extent remaining, respectively (Shepherd et al, 2001). The Shire of Greenough has 15.0% of pre-European extent remaining (Shepherd et al, 2001). In addition the Geraldton Sandplains Bioregion has 42.2% of pre-European extent remaining (Shepherd et al, 2001). The Beard Vegetation Association 359 and Shire of Greenough have a conservation status of 'vulnerable' for biodiversity conservation (Department of Natural Resources and Environment, 2002).

The area under application falls within EPA Position Statement No. 2 however it does not impact on this proposal as the clearing is not for agricultural purposes.

The vegetation is considered to be in good condition in certain parts and degraded in others however, overall the condition of the vegetation was assessed as 'degraded'. However, the vegetation on site is dominated by Acacia sp. and surrounded by residential areas. In addition, the vegetation has no understorey, and the site has been used as a rubbish dumping site. The vegetation under application is unlikely to be significant as an area of remnant vegetation in the local area. (DEC Site Visit, 2007)

Therefore this proposal is not likely to be at variance with this Principle.

	Pre-European area (ha)	Current extent (ha)	Remaining %*	Conservation status**	Reserves/CALM-managed land, %
IBRA Bioregion - Geraldton Sandplains***	3,136,277	1,324,440	42.2	Depleted	35.6
Shire - Greenough***	177,404	26,612	15.0	Vulnerable	Not available
Beard veg type - 359	44,496	8,384	18.8	Vulnerable	0.0
Beard veg type - 440	4,209	2,311	54.9	Least concern	8.7

* (Shepherd et al, 2001)
** (Department of Natural Resources and Environment, 2002)
*** Area within Intensive Landuse Zone

Methodology

GIS Databases:
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Pre-European Vegetation - DA 01/01
- Local Government Authorities - DLI 08/07/04
- EPA Position Paper No 2 Agriculture Region - DEP 12/00

Shepherd et al (2001).
Department of Natural Resources and Environment (2002)
DEC Site Visit (2007)

(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 at variance to this Principle

There are no watercourses or wetlands within the area under application (DEC Site Visit, 2007). The closest watercourse is a non-perennial watercourse which occurs approximately 200m east of the area under application.

Therefore, this application is not at variance to this Principle.

Methodology

GIS Databases:
- Hydrography, linear - DoE 01/02/04
- Hydrographic Catchments - Catchments - DoE 23/03/05

DEC Site Visit (2007)

(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 dune on the western side consists of sandy soils while the low lying areas consist of silty river sand (DEC Site Visit, 2007). The dune in the area under application has an elevation of 20m that falls to 5-10m north-eastwards and west-north-westwards.

Clearing on this slightly hilly terrain may exacerbate water erosion at times of heavy rainfall and consequent flooding in low lying areas. If downstream recharge increases, it may cause sedimentation in the non-perennial watercourse lying 200m east of the area under application. Similarly, water infiltrated from the sandy soils of the dune on the western side may seep into the low lying areas and cause flooding during extreme rainfall events. However, considering the low average annual rainfall for the region (i.e. 450mm), flooding is unlikely to occur as a result of clearing. Similarly, clearing is unlikely to cause excessive flooding as the soils in low lying areas are also sandy, which are presumed to be well-drained.

Eutrophication of the watercourse is unlikely as the area under application has no indication of agricultural landuse or domestic waste disposal. Most of the waste that has been dumped on site appears to be pieces of metal and automobile parts. (DEC Site Visit, 2007)

Risk of salinity in the area under application is low. Therefore clearing may not cause excessive salinity in the proposed site.

Given the close proximity to the coast, sandy soils and windy local conditions, wind erosion could be an issue after clearing has taken place.

Therefore this application may be at variance to this Principle. To reduce the potential wind erosion impacts, wind erosion conditions will be imposed if clearing is approved.

Methodology

GIS Databases:
- Rainfall, Mean Annual - BOM 30/09/01
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide - DA 11/99
- Topographic Contours Index, Statewide - WRC 12/09/02

DEC Site Visit (2007)

(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 Wokatherra Nature Reserve is situated approximately 4km northeast of the area under application. Other than Wokatherra Nature Reserve, there are no other Nature Reserves, National Parks, Conservation Parks, Proposed National Parks or other DEC managed areas within a radius of approximately 10km from the area of application. No large areas of remnant vegetation are linked to the area under application. There are fifteen Ecologically Sensitive Areas (ESAs) situated within a radius of about 10km from the area under application. Four species of Declared Rare Flora (DRF) and one species of Priority 4, one species of Priority 3, one species of Priority 2, and one species of Priority 1 plants occur in these ESAs. However the soil types they occur differ from the soil type of the area under application. In addition, the area under application is not connected to these ESAs via corridors of native vegetation.

Therefore, this proposal is unlikely to be at variance to this Principle.

Methodology

GIS Databases:
- CALM Regional Parks - CALM 12/04/02
- CALM Managed Lands & Waters - CALM 01/07/05
- Proposed National Parks FMP-CALM 19/03/03
- Register of National Estate - EA 28/01/03
- Soils, Statewide - DA 11/99

(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 Coastal hydrographic catchment. It is not situated near any Public Drinking Water Supply Areas (PDWSAs). A non-perennial water course is present approximately 200m east of the area under application. Risk of salinity in the area under application is low. Relatively low average annual rainfall (i.e. 450mm) and smaller area (5.6ha) with non-agricultural landuse means that clearing in the area under application may not adversely impact the quality of water in this watercourse.

A groundwater drill (probably a bore) is situated at a distance of approximately 350m northeast of the area under application, which has a depth of 5.4m to groundwater. This indicates that the local area contains a shallow watertable. Considering the close proximity of the area under application to the ocean, it is plausible to assume that the quality of the underground water in the local area is saline. Therefore, even though the area has a shallow watertable (i.e. 5.4m), clearing of vegetation in the area under application is not likely to deteriorate the quality of underground water any further, as it is expected to be already saline.

The dune on the western side consists of sandy soils while the low lying areas consist of silty river sand (DEC

Site Visit, 2007). These sandy soils are assumed to have faster rates of infiltration. Clearing under these conditions may increase the rising of watertable further. However, considering the relatively low average annual rainfall in the region, clearing is not likely to cause a substantial watertable rise in the local area.

Therefore this proposal is not likely to be at variance to this Principle.

Methodology GIS Databases:
- Current WIN data sets
- Public Drinking Water Sources (PDWSAs) - DOE 09/08/05
- Hydrographic Catchments - Catchments - DOE 23/03/05
- Hydrography, linear - DoE 01/02/04
- Rainfall, Mean Annual - BOM 30/09/01

DEC Site Visit (2007)

(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 consists of sandy soils (DEC Site Visit, 2007). The dune on the western part of the area under application has an elevation of 20m that falls to 5-10m downhill. Clearing entire surfaces of this slightly hilly terrain may accelerate downstream recharge at times of heavy rainfall and consequent flooding in the low lying areas. In addition, water infiltrated from the sandy soils of the dune on the western side may seep into the low lying areas and cause flooding during extreme rainfall events. However, considering the low average annual rainfall for the region (i.e. 450mm), flooding is unlikely to occur as a result of clearing. Similarly, clearing is unlikely to cause excessive flooding as the soils in low lying areas are also sandy, which are expected to be well-drained.

Therefore this proposal is not likely to be at variance to this Principle.

Methodology GIS Databases:
- Rainfall, Mean Annual - BOM 30/09/01
- Topographic Contours, Statewide - DOLA 12/09/02

DEC Site Visit (2007)

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

Comments

The Shire of Greenough has not indicated that there are any planning requirements or approvals that would affect the clearing.

There is no further requirement for a RIWI Act Licence, Works Approval or EP Act Licence for the area under application.

There is an Aboriginal Site of Significance over the area under application. The proponent will be advised on the covering letter.

There are three Native Title claims over the area under the application. However, the area under application is freehold land and therefore Native Title has been extinguished.

There are four Environmental Impact Assessments over the area under application. Three of these EIAs have no impact on this proposal as follows: The EIA titled CRN119444 is the Geraldton Region Plan. This EIA has been given a level of assessment of 16 [not a proposal under Part IV Section 16 of the Report (no appeals)]. The level of assessment was set on 07 January 1998. The EIA titled CRN204237 is the District Zoning Scheme of the Shire of Greenough (TPS No. 5) with a level of assessment of 19 [Scheme Amendment Not Assessed - Advice given under Section 48a(1)(A) (no appeals)]. The level of assessment was set on 18 February 2004. The EIA titled CRN152262 is the TPS 4 Amendment 91 of the Shire of Greenough that has been given a level of assessment of 18 [Scheme Amendment Not Assessed (no appeals)]. The level of assessment was set on 05 May 2000. The EIA titled CRN220477 refers to an amendment made to the TPS No. 4 of the Shire of Greenough. A level of assessment has not been set on this Proposal. The Environmental Protection Authority advised that it has requested further information from the Shire of Greenough in relation to the regional representation of native vegetation on the Geraldton coastal strip, which includes the area under application. However, the area of proposed clearing is small (i.e. 5.6 ha) when compared to the area to the south of the EPA Proposal. Furthermore, the vegetation under application is disturbed by weed invasion and historical rubbish dumping, surrounded by urban and residential landuses, and found to be in a 'degraded' and fragmented condition (DEC Site Visit, 2007; Keighery, 1994). Therefore, the vegetation under application does not appear to be of regional significance and does not need to be included in the vegetation assessment as requested by the EPA and being undertaken by the Department of Planning and Infrastructure.

Methodology GIS Databases:
- Aboriginal Sites of Significance - DIA
- EPA Position Paper No 2 Agriculture Region - DEP 12/00

- Environmental Impact Assessments - DOE 24/02/06
- Native Title Claims - DLI 17/11/05
DEC Site Visit (2007)
Keighery (1994)

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Stockpile	Mechanical Removal	5.6	The assessable criteria have been addressed and the proposal may be at variance to Principle g. Principle (g): Given the close proximity to the coast, sandy soils and windy local conditions, wind erosion could be an issue after clearing has taken place. To reduce the potential wind erosion impacts, wind erosion conditions will be imposed if the clearing is approved.

5. References

DEC Site Visit (2007). Department of Environment and Conservation (DEC), Western Australia. DEC TRIM Ref DOC20271.

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.

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

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.

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)