Department of Environment
Government of Western Australia

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 978/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Chief Executive Officer City of Wanneroo

1.3. Property details

Property: ROAD RESERVE (LANDSDALE 6065)
Local Government Area: City Of Wanneroo
Colloquial name: Alexander Drive

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.2		Mechanical Removal	Road construction or maintenance

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 1001: Medium very sparse woodland; jarrah, with low woodland; banksia and casuarina (Hopkins et al. 2001, Shepherd et al. 2001) Heddle Vegetation complex: Bassendean Complex - Central and South; Vegetation ranges from woodland of E. marginata - C. fraseriana - Banksia spp. to low woodland of Melaleuca species, and sedgelands on the moister sites. This area includes the transition of E. marginata to E. todtiana in the vicinity of Perth (Heddle et al. 1980)	The 0.2 ha area under application consists of narrow pockets of native vegetation scattered along a 2 km length of road reserve immediately to the west of existing road works along the northern most section of Alexander Drive. Immediately east of the proposed clearing are private properties many of which are worked as market gardens. The vegetation applied to be cleared consists of Banksias, Xanthorrhoea, Adenanthos and Macrozamia species with little to no native understorey. The remaining vegetation has high levels of weed invasion and is exposed to dust and sand migration from the adjacent road works (Site Visit, 2006).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the vegetation under application varied from good to completely degraded. Given the lack of community structure and high levels of disturbance, an overall condition of degraded was considered most appropriate (Site Visit, 2006).

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

The 0.2 ha area under application lies within a road reserve and consists of small, narrow pockets of native vegetation scattered along a 2 km length immediately to the west of existing road works along the northern most section of Alexander Drive. Immediately west of the proposed clearing are private properties many of which are cleared of native vegetation and worked as market gardens.

The vegetation under application was largely consistent with the description of medium to sparse woodland including banksia and casuarina (Site Visit 2006). Few Melaleuca and sedge species were identified. High levels of weed invasion and disturbance was compounded by sand migration from the adjacent road works.

Bush Forever sites totalling 287 ha and 301 ha are located immediately east of the northern most section of Alexander Drive (<50 m from the proposed clearing) and to the north of the intersection of Alexander Drive and Gnangara Road (150m+), respectively. The area under application is also identified as being within the buffer of TEC's within the Bush Forever site to the immediate east of Alexander Drive.

Given the conservation values of the Bush Forever sites and TEC areas as described above, it is not likely that the small pockets of degraded vegetation as applied to be cleared are of higher biological diversity than that in adjacent intact vegetation.

Methodology Site Visit (2006) (DEC TRIM ref: DOC 2135)
GIS Databases:
- Bushforever - MFP 07/01
- Swan Coastal Plain North 40cm Orthomosaic - DLI 05

(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**
Within the local area, it is likely that the intact vegetation with the Bush Forever sites to the east and north of the proposed clearing provide significant habitat for indigenous fauna. It is unlikely that the degraded narrow pockets of vegetation under application, that have little to no native understorey, could be considered as significant habitat for native fauna.

The 0.2 ha applied to be cleared lies along a 2 km stretch of Alexander Drive. Of the properties immediately to the west of the 2 km stretch, those that have not been cleared for market gardens consists of intact vegetation. The presence of Alexander Drive and Gnangara Road provides a natural barrier to faunal movement across these transport corridors.

Methodology GIS Databases:
- Bushforever - MFP 07/01
- Swan Coastal Plain North 40cm Orthomosaic - DLI 05

(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**
Based on DEC datasets no Declared Rare Flora species are known to occur within the area under application or within 5km of the area under application. A report from the Biodiversity Coordination Section (2006) indicates that based on the available information (TRIM Ref DOC 2154) the area proposed to be cleared is unlikely to contain DRF.
The clearing as proposed, therefore, is not likely to be at variance to this Principle.

Methodology Biodiversity Coordination Section (2006) (DoE Trim Ref: DOC 2154)
GIS Databases:
- Declared Rare and Priority Flora List - CALM 13/08/03

(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 may be at variance to this Principle**
The areas under application lie within an Environmentally Sensitive Area identified as a buffer for a TEC. Advice from the Species and Communities Branch report three inferred occurrences of the TEC, SCP20a (Banksia attenuata woodland over species rich dense shrublands) within the SE quadrant of the junction of Gnangara Rd and Alexander Drive (TRIM Ref No.DOC 2156). The report suggests that there is insufficient information to be able to conclude whether the vegetation under application constitutes TEC 20a. As surveying this site by plot analysis is no longer possible given the small areas of vegetation remaining, the only available option would be to compile a full species list and compare it against floristic data from Gibson et al. (1994). However, the report also acknowledges that given that the vegetation, if left uncleared, would be subject to the typical road maintenance activities, altered fire regimes, and weed encroachment associated with narrow to no road verges, it is unlikely that it will be sustainable into the future.

The Biodiversity Coordination Section recommends that if CPS 978 is approved, that it be conditional upon a combined offset package being agreed upon for CPS 978 and CPS 980, commensurate with the value of the vegetation that will be removed (TRIM Ref No.DOC 2156). A cumulative offset will be included as a condition on a permit issued for CPS 980, that will offset the 0.2 ha applied to be cleared in this application.

Methodology A Floristic Survey of the southern Swan Coastal Plain (Gibson et al. 1994)
DEC's Principle Ecologist Advice (DEC TRIM ref: DOC 2156)
GIS Databases:
- Threatened Ecological Communities - CALM 12/4/05

(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 vegetation under application has been mapped as Beard Vegetation Association 1001 which has approximately 18,907 ha (27.6%) of remnant vegetation remaining (Shepherd et al 2001, Hopkins et al 2001) and Heddle Bassendean Complex - Central and/ South with approximately 23,624 ha (27%) remaining (Heddle et al 1980). Both, therefore, have a conservation status of 'vulnerable'.

The State Government is committed to the National Objective and Targets for Biodiversity Conservation 2001-2005 (AGPS, 2001) which includes a target that prevents clearance of ecological communities with an extent below 30% of that pre-European settlement (Department of Natural Resources and Environment, 2002; EPA, 2000). Both Beard and Heddle complexes are below the 30% threshold.
Further, the benchmark of 15% representation in conservation reserves (JANIS Forests Criteria 1997) has not been met for either vegetation associations (4.2% and 0.7% for Beard's and Heddle's respectively) (Shepherd et al. 2001, Hopkins et al. 2001, Heddle et al 1980).

However, the vegetation under application consists of 0,2 ha of degraded, highly fragmented vegetation within a road reserve. As such it has been subject to and, if let uncleared, will continue to be subjected to disturbances from weed invasion and sand migration. The vegetation proposed to be cleared, therefore, is not likely to be representative of the vegetation complexes mapped for the area, nor is it suitable to be maintained for conservation.

Following negotiations with the City of Wanneroo, a combined offset package has been agreed upon for CPS 978 (0.2 ha)and CPS 980 (1.4 ha), commensurate with the value of the vegetation that will be removed. A cumulative offset will be included as a condition on a permit issued for CPS 980, that will offset the 0.2 ha applied to be cleared in this application.

Methodology

AGPS (2001)
Department of Natural Resources and Environment (2001)
EPA (2000)
Heddle et al. (1980)
Hopkins et al. (2001)
JANIS Forests Criteria (1997)
Shepherd et al. (2001)

(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

No watercourse or wetland is present in the area under application.
Gnangara Lake which is classified as a Conservation Category Wetland, an EPP Lake and an EPP Area (Gnangara Mound) are all mapped approximately 400m+ to the north-east of the area under application, north of Gnangara Road.
Given that the small area under application consists of highly fragmented narrow pockets of disturbed native vegetation along a 2 km length of Alexander Drive which runs perpendicular to and south of Gnangara Road (Site Visit, 2006), it is unlikely that the clearing as proposed will compromise the environmental values of these water bodies.

Methodology

Site Visit (2006) (DEC TRIM ref: DOC 2135)
GIS Databases:
- EPP, Areas - DEP 06/95.
- EPP, Lakes - DEP 1/12/92.
- Geomorphic Wetlands (Classification), Swan Coastal Plain - DOE 15/9/04
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DOE 15/9/04

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal is not likely to be at variance to this Principle

The characteristic landscape of the area is subdued dune-swale terrain with the chief soils being leached sands.
The area under application lies within a Class 2 Moderate to Low risk Acid Sulfate area. The area is also in a low salinity risk area with salinity <500mg/l.
Given that the proposed clearing comprises 0,2 ha of highly fragmented vegetation scattered along a 2km stretch of existing road works, it is unlikely that the clearing will cause any appreciable land degradation.

Methodology GIS Databases:
- Acid Sulfate Soil Risk Map, SCP - DOE 04/11/04
- Groundwater Salinity, Statewide - 22/02/00
- Soils, Statewide - DA 11/99

(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**
Bush Forever sites 193 (301ha), 196 (287ha) and 198 (479ha) are located within 5 km of the area under application. The Gnangara-Moore River State Forest (>4000ha) also lies 5 km north-east of the area under application. Given the small (0.2ha) fragmented and degraded nature of the vegetation under application, in addition to its separation from these areas by established roads, it is unlikely that the clearing as proposed will have an impact on the environmental values of these conservation areas.

Methodology GIS Databases:
- CALM Managed Lands and Waters - CALM 01/08/04
- Bushforever - MFP 07/01

(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 Gnangara Mound Groundwater Area is located approximately 550m north-west from the northern part of the area proposed to be cleared and approximately 60m south-east of the southern part of the applied area. The area under application is also located within Policy Use P1 (Mirrabooka Underground) and Policy Use P2 (Gnangara Underground Water Pollution) Public Drinking Water Source Areas. The guiding principle for these areas is risk avoidance and risk minimisation respectively (DoE 2004). However, given the small size (0.2ha over a 2 km length) of the area proposed to be cleared, there is little perceived impact on the quality of the surface and underground water in the area.

Methodology DoE (2004) (DoE TRIM ref: EI 6495)
GIS Databases:
- Public Drinking Water Source Areas (PDWSAs) - DoE 29/11/04
- EPP, Areas - DEP 06/95

(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**
Given the small size (0.2 ha) and fragmented nature of the vegetation proposed to be cleared (extending along a relatively flat 2 km stretch of existing roadworks) , it is unlikely that the clearing will cause or exacerbate the incidence or intensity of flooding.

Methodology GIS Databases:
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments
The City of Wanneroo submitted two applications to clear native vegetation in relation to the widening of Alexander Drive (0.2 ha - CPS 978) and the upgrade of the Alexander Drive/Gnangara Road intersection (1.4 ha - CPS 980). Both applications are located within Environmentally Sensitive Areas identified as (the buffer area of) TECs. In addition, Bush Forever Sites are mapped to the east of Alexander Drive (approximately 35 m from the proposed clearing for CPS 978) and encroaching into the area under application for CPS 980. During consultation with the City of Wanneroo and the Bush Forever office a cumulative offset for both the 0.2 ha for CPS 978 and the 1.4 ha for CPS 980 has been negotiated and will be included as a condition of CPS 980. The City of Wanneroo has requested that due to financial deadlines and existing roads works, the Department issues a permit for CPS 978 with the undertaking that the condition for the cumulative offset with be included in the permit for CPS 980.
There is no other RIWI Act Licence, Works Approval, or EP Act Licence that will affect the area that has been applied to clear.

Methodology

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Road construction	Mechanical oRemoval	0.2	Grant	The application has been assessed and the clearing as proposed is at variance to Principle e and may be at variance to Principle d. For principle e the vegetation under

maintenance

application consists of 0,2 ha of degraded, highly fragmented vegetation within a road reserve. As such it has been subject to and, if let uncleared, will continue to be subjected to disturbances from weed invasion and sand migration. The vegetation proposed to be cleared, therefore, is not likely to be representative of the vegetation complexes mapped for the area, nor is it suitable to be maintained for conservation. For Principle d, the determination of the vegetation being part of a TEC is difficult and may be inconclusive. It is acknowledge that if the vegetation is left uncleared, it would be subject to the typical road maintenance activities, altered fire regimes, and weed encroachment associated with narrow to no road verges, and is therefore unlikely to be sustainable into the future.

Following negotiations with the City of Wanneroo, a combined offset package has been agreed upon for CPS 978 (0.2 ha) and CPS 980 (1.4 ha), commensurate with the value of the vegetation that will be removed. A cumulative offset will be included as a condition on a permit issued for CPS 980, that will offset the 0.2 ha applied to be cleared in this application.

Given the undertaking by the City of Wanneroo for the revegetation, and that this revegetation will be included as a condition on the permit issued for CPS 980, the assessing officer recommends that a permit be granted.

5. References

AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.

City of Wanneroo (2006) Intersection Upgrade Works at Gnangara Road/Alexander Drive, Landsdale - Native Vegetation Clearing Permit Application. DoE TRIM ref: IN24892-02

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.

DoE 2004. Water Quality Protection Note - Land use compatibility in Public Drinking Water Source Areas (DoE TRIM ref: EI6495)

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.

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.

JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.

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
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)