Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2170/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Defence Support Group - Western Australia (Commonwealth Department of Defense)

1.3. Property details

Property: LOT 4229 ON PLAN 220698 (WEDGE ISLAND 6044)

Local Government Area: Shire Of Gingin

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
7		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: - 1026: Mosaic: Shrublands; Acacia rostellifera, A. cyclops (in the south) & Melaleuca cardiophylla (in the north) thicket / Shrublands; Acacia lasiocarpa & Melaleuca acerosa heath. - 1029: Shrublands; scrub-heath dryandra-calothamnus association with Banksia prionotes on limestone in the northern Swan Region (Shepherd 2006).	The proposal is to clear a total of 7ha within two sites (458ha and 15ha) located in Lot 4229, (11,888). Lot 4229 is vested with the Department of Planning and Infrastructure and leased to the Department of Defence. The clearing is required for the construction of a permanent vehicle hardstand with associated off road movement area. Approximately 2.5ha is proposed to be cleared from the movement box (Area 1) (458ha) for the purpose of establishing targets (1.75ha), temporary bunkers (.5ha) and for flagpole marking in the movement box (.25ha). A further 2.5ha is to be cleared for the vehicle hardstand and tracks (Area 2). The vegetation under application comprises Melaleuca systena and Acacia rostellifera heath. Other widespread species include Hemiandra pungens, Olearia rudis and Acacia cochlearis (Ecoscape 2004). The vegetation within the applied areas is considered to be in overall excellent condition.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The clearing description and the condition of the vegetation under application were determined from the site inspection under taken 17/12/2007 (TRIM Ref DOC 43547). The condition ranged from good (Area 2) to excellent (Area 1). With an overall condition of excellent

A rapid vegetation survey carried out by SMEC (2007) for the proponent identified the vegetation as coastal kwongan ranging from 0.1m- 3m high growing in sandy limestone soils.

The areas of vegetation under application are also located within the Intensive Land Use Zone (Shepherd et al 2001) within the area defined in EPA position statement No. 2 (EPA 2000).

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 vegetation under application comprises Melaleuca systena and Acacia rostellifera heath (Site inspection 2007). Other widespread species include Hemiandra pungens, Olearia rudis and Acacia cochlearis (Ecoscape 2004). The vegetation within the applied areas is considered to be in overall excellent condition.

The Lancelin Defence Training Area (LDTA) is located within an area of exceptional floristic diversity, with a correspondingly high number of habitat types and floristic communities (Ecoscape 2004). An environmental review of the entire LDTA (Ecoscape 2004) identified 186 native flowering plant taxa, with the actual number of species present likely to be around 400 (Ecoscape 2004). The Ecoscape review (2004) also concluded that 185 species of birds, 55 species of reptiles, and 29 species of mammals may inhabit the LDTA.

Twenty two records of the Priority 3 (P3) species Stylidium maritimum have been recorded within the proposed hardstand track area (Area 2), with a larger population within the movement box (Area 1) (SMEC 2007). In addition, there are five records of other Priority species that occur in the local areas (10km radius) being Tricoryne eneabba (P2) located 3km east of the applied area, Dryandra lindleyana (P3) located 3km south east of the applied area, Hibbertia spicata (P3) located 5.4km east of applied area, Isotropis cuneifolia (P2) located 5.1km east of the applied area and Conostylis pauciflora subsp. euryphis (P3) located 7.8km south of the applied areas. The priority flora occur in the same vegetation associations found in the applied areas, also D. lindleyana and C. pauciflora subsp. euryphis on the same soil type as the vegetation within the applied areas.

Given the high biodiversity of the site and the overall excellent condition of the vegetation, the clearing as proposed is considered to be at variance to this Principle.

To mitigate the potential impact on the P3 taxa Stylidium maritimum clearing will not be permitted in and around the large population identified within the movement box (Area 1) if the permit is granted

Methodology

References:
- Ecoscape (2004)
- Site Inspection (2007)
- SMEC (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

A site inspection of the applied areas (2007) identified the vegetation under application as comprising Melaleuca systena-Acacia rostellifera heath in an overall excellent condition. The ground is densely covered with low lying shrubs and weed species are minimal and non-aggressive.

Carnaby?s Black Cockatoos (Calyptorhynchus latirostris) (Edangered) have been recorded of within the local area (10km radius). Carnaby?s are known to move around seasonally in flocks and feeds in areas of proteaceous shrubs and heaths (DEC Habitat notes 2007). Carnaby's Black-Cockatoo is listed as a Schedule 1 species under the Wildlife Conservation (Specially Protected Fauna) Notice 2006.

In addition an environmental review conducted by Ecoscape (2004) indicated that the Priority 4 (P4) Brush Wallaby (Macropus irma) occurs in the LDTA. Chuditch (Dasyurus geoffroii), quenda (Isoodon obesulus fusciventer) (P5), and the bat species Falsistrellus Mackenzie (P4) are also known to occur in the local area and

inhabit similar vegetation to the areas under application.

Although the vegetation within the applied areas is in excellent condition and contains habitat values, it is considered unlikely to comprise of significant habitat given the relatively small area proposed to be cleared (several small areas totally 7ha over 473ha) and the extensive surrounding vegetation. Therefore, the proposed clearing is considered not likely to be at variance to this Principle.

Methodology

References:
- Ecoscape (2004)
- DEC Fauna Habitat Notes (2007)
- Site Inspection (2007)

GIS Databases
- SAC Biodata sets16/01/2008
- Wedge Island 1.4 Orthomosaic- DLI Mar/04

(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 known records of Declared Rare Flora (DRF) in the local area (10km radius). The closest record of DRF is Anigozanthos viridis subsp. terraspectans located approximately 16.3km north of the vegetation under application applied areas. This DRF also occurs on different soils and vegetation complex than the vegetation within the applied area.

The SMEC survey (2007) did not identify any DRF within the applied areas.

Given the above, it is not likely that the proposed clearing will be at variance to this Principle.

Methodology

GIS Databases:
- SAC Bio datasets accessed 16/01/2008

(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) within a 10km radius of the vegetation under application. The nearest TEC known as Floristic Community Type SCP07- Herb rich saline shrublands in clay pans (Gibson et al 1994) is located approximately 44km south east of the applied areas. This TEC occurs on different soils and within a different vegetation complex to the applied areas. Futher an environmental review (Ecoscape 2004) did not identify any TEC within the entire LDTA area. Given this, and the distance to the applied areas, the vegetation under application is not considered likely to comprise the whole or the part of, or be necessary for the maintenance of the Threatened Ecological Community.

The closest ecological community of conservation significance is a Priority Ecological Community (PEC) located 4.8km to the east of the applied areas. The PEC has been identified as Claypans with mid-dense shrublands of Melaleuca lateritia. Given that this PEC occurs within a different soil and vegetation complex to the vegetation under application the proposed area is not considered to comprise a PEC.

Methodology

References:
- Ecoscape (2004)
- Gibson et al (1994)

GIS Databases
- Pre-European Vegetation- DA 01/01
- SAC Bio datasets accessed 27/12/07
- 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 under application is associated with Beard vegetation associations 1026 and 1029, which have 89% and 75% vegetation extent remaining respectively (Shepherd 2006).

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 Pre-European settlement (Commonwealth of Australia 2001).

Both Beard vegetation associations mapped within the applied areas are well represented at 89%and 75% respectively (Shepherd 2006).

The areas of vegetation under application are located within the Intensive Land Use Zone (Shepherd et al 2001) within the area defined in EPA position statement No. 2 (EPA 2000). EPA position statement No. 2 (EPA 2000) states that ? clearing and consequently salinity are having a devastating effect on biodiversity through the direct loss of plant species, and the associated loss of mammals, birds and other animals which depend on sufficiently large areas healthy bush for food and shelter?.

Given only small areas of land totalling 7ha will be cleared and the high representation of the mentioned vegetation associations, as well as the extensive vegetation around the applied areas, it is considered unlikely that the clearing as proposed will not be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregions				
Swan Coastal Plain*	1,501,456	571, 758	38.1	
Shire of Gingin**	315, 560	177, 688	56.3	
Vegetation type:				
Beard 1026:*	70, 704	63, 068	89.2	52.4
Beard 1029*	71, 040	53, 258	75	35.8

*(Shepherd 2006)
**(Shepherd et al 2001)

Methodology

References:
- Commonwealth of Australia (2001)
- EPA (2000)
- Shepherd (2006)
- Shepherd et al (2001)

GIS Databases:
- EPA position statement 2
- Interim Biographic Regions of Australia EA 18/10/00
- Pre-European Vegetation- DA 01/01

(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 wetlands or watercourses mapped within the applied areas. The closest surface hydrological feature is a series damplands and non-perennial swamps located approximately 3.7km north east of the applied area. The Indian Ocean is located 3.7km to the west of applied areas. Given the distance to these wetland areas, the vegetation under application is not considered to be growing in association with these areas.

In addition, a site inspection (2007) identified the vegetation under application as representative of an upland vegetation community. Therefore the proposed clearing is considered not likely to be at variance to this Principle.

Methodology

Reference:
- Site Inspection (2007)

GIS Database:
- Geomorphic Wetlands (Mgt Categories)- Swan Coastal Plain
- Geomorphic Wetlands (Classification)- Swan Coastal Plain
- Hydrography, linear- DOE 01/02/04
- WA Coastline

(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 areas of vegetation under application are located within the Quindalup dune system, and are associated with chief soils of siliceous sands (Northcote et al 1960-68). These soils typically have a very high risk of wind erosion (Ecoscape 2004). The applied areas may be subject to wind erosion given the high elevation of the site and its exposure to strong on shore winds. However, only relatively small areas totalling 7ha are proposed to be cleared and there is significant vegetation cover surrounding the applied areas to mitigate the effects of erosion. Therefore, the clearing as proposed is considered not likely to be at variance to this Principle.

Permeability of the sands of the Quindalup system is high; however they are prone to cementing leading to surface runoff and potential minor gully erosion (Ecoscape 2004). However, only relatively small areas totalling 7ha are proposed to be cleared and there is significant vegetation cover surrounding the applied areas.

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

The proponent has indicated that the proposed hard stand area will be cemented and the movement tracks will be monitored and maintained (Site inspection 2007).

Given the above it is considered that the clearing as proposed is unlikely to be at variance to this Principle.

Methodology

References:
- Ecoscape (2004)
- Northcote et al (1960-68)

GIS Databases:
- Soils, Statewide- DA 11/99
- Topographic Contours, Statewide- DOLA 12/09/02
- Wedge Island 1.4 Orthomosaic- DLI Mar/04

(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 two conservation reserves located within the local area (10km radius). Nilgen Nature Reserve is located on the southern most point of the applied area and covers a total area of 4, 606ha. The majority of Nilgen Nature Reserve is listed under the register of National Estate. Bashford Nature Reserve is located approximately 4.4km to the east of the applied area and covers a total area of 101ha.

Given the small total area (7ha) applied to be cleared and the large areas of the surrounding conservation reserves it is considered not likely the clearing as proposed is at variance to this Principle.

Methodology

GIS Databases
- DEC Managed Lands and Waters- CALM 1/07/05
- Wedge Island 1.4 Orthomosaic- DLI Mar/04

(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

There are no wetlands or watercourses mapped within the applied vegetation. The closest surface hydrological feature is a series damp lands and a non-perennial swamps located approximately 3.7km north east of the applied area.

The proposed clearing is unlikely to have any impact on surface water quality due to the distance to the nearest hydrological feature and the fact that drainage flows in a westerly direction, away from the closest hydrological features to the east. Also, only relatively small areas totalling 7ha are proposed to be cleared and there is significant vegetation cover surrounding the applied areas.

A Public Drinking Water Source Area (PDWSA) is located within the local area (10km radius), being the Priority 1 (P1) Lancelin Water Reserve located 8.5km south of the applied areas. P1 areas are declared over land where the provision of the highest quality public drinking water is the prime beneficial land use (Department of Environment 2004).

Given the distance from the applied areas to the nearest PDWSA, the clearing as proposed is not considered likely to impact on the PDWSA.

Methodology

References:
- Department of Environment (2004)
- Ecoscape (2004)

GIS Databases:
- Geomorphic Wetlands (Classification), Swan Coastal Plain DEC
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain DEC
- Public Drinking Water Source Areas (PDWSA?s) DOW
- Wedge Island 1.4 Orthomosaic- DLI Mar/04

(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 proposal is to clear several small areas totalling 7ha within two sites.

The areas of vegetation under application are located within the Quindalup dune system, and are associated with chief soils of siliceous sands (Northcote et al 1960-68). Permeability of the sands of the Quindalup system

is high; however they are prone to cementing leading to surface runoff and potential minor gully erosion (Ecoscape 2004) However, this is unlikely to have a significant impact due to the applied areas being heavily vegetated.

Flooding impacts are unlikely to occur as a result of the proposed clearing due to the areas size and location. Further the applied areas are relatively high, ranging in elevation from 60 to 80m.

Given the permeable nature of the soils in site, the relatively small area to be cleared and the height of the site in the landscape, it is considered unlikely that the clearing as proposed will be at variance to this Principle.

Methodology

References:
- Ecoscape (2004)
- Northcote et al (1960-68)

GIS Databases:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain DEC
- Hydrography, Linear- DOE 01/02/04
- Soils, Statewide- DA 11/99
- Topographic Contours, Statewide- DOLA 12/09/02
- Wedge Island 1.4 Orthomosaic- DLI Mar/04

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

Comments

The Lancelin Defence Training Area, including the applied areas is included on the Commonwealth Heritage of its high natural values. The Commonwealth Heritage List comprises natural, Indigenous and historic heritage places on Commonwealth lands and waters or under Australia Government control, and identified for the Minister for the Environment and Heritage as having Commonwealth heritage values (Ecoscape 2004).

There are no Aboriginal Sites if Significance listed within the areas under application.

Lot 4229 on Plan 220698 is owned by the Department of Planning and Infrastructure and leased to the Commonwealth of Australia public purposes (special uses).

Methodology

References:
- Ecoscape (2004)
- EPA (2000)

GIS Databases:
- Aboriginal Sites of Significance
- Planning and Cadastre
- EPA position statement 2

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Road construction o maintenance	Mechanical Removal	7	The assessable criteria have been addressed and the clearing as proposed is at variance to Principle (a) but unlikely to be at variance to the remaining Principle.

5. References

Gibson N., Keighery B., Keighery G., Burbidge A. and Lyons M. (1994). A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management and the Western Australian Conservation Council.

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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.

Ecoscape (2004) Lancelin Defence Training Area Environmental Management Plan Draft Environmental Review. Unpublished report prepared for the Department of Defence.

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.

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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SMEC Australia (2007) Defence Metro WA9911093- Lancekin Defence Training Area Firing Point Report, Prepared for the Department of Defence; SMEC Australia Ltd
Western Australian Herbarium (1998?). FloraBase ? The Western Australian Flora. Department of Environment and Conservation. http://florabase.calm.wa.gov.au/ (Accessed 16/01 /2007).

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)