



1. Application details

1.1. Permit application details

Permit application No.: 780/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: A. Scott Hambley

1.3. Property details

Property: LOT 108 ON PLAN 192036
Local Government Area: Shire Of Serpentine-Jarrahdale
Colloquial name: Turner Road - Lot 108

1.4. Application

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

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
<p>Beard vegetation association: - 999 - Medium woodland; marri (Shepherd et al. 2001)</p>	<p>The proposal includes that clearing on 0.045 hectares of vegetation for the purpose of installing water tanks for fire fighting purposes, and the upgrade of an existing firebreak.</p>	<p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)</p>	<p>Vegetation clearing description based on information obtained from Declared Rare, Priority Flora and Threatened Ecological Community Survey (Syrinx Environmental, 2005).</p>
<p>Hedde vegetation complex: - Guildford Complex - A mixture of open forest to tall open forest of <i>E. calophylla</i> - <i>E. wandoo</i> - <i>E. marginata</i> and woodland of <i>E. wandoo</i> (with rare occurrences of <i>E. lane-poollei</i>). Minor components include <i>E. rudis</i> - <i>M. raphiophylla</i>. (Hedde et al. 1980)</p>	<p>The vegetation under application has been identified by Syrinx Environmental (2005) as having two vegetation community types within the area. The main vegetation community type present is <i>Corymbia calophylla</i> Low Woodland over scattered mixed Shrubs. Shrubs present include <i>Hakea trifurcata</i> and <i>Acacia lasiocarpa</i> over <i>Watsonia meriana</i> var. <i>bulbillifera</i> Herbland.</p>		
<p>Mattiske vegetation complex: - Fo: Mosaic of open forest of <i>Corymbia calophylla</i>-<i>Eucalyptus wandoo</i>-<i>Eucalyptus marginata</i> subsp. <i>elegantella</i> and open forest of <i>Eucalyptus marginata</i> subsp. <i>Marginata</i> (Mattske, 1998)</p>	<p>The second vegetation community type is present in a localised area (approximately 70 square metres) slightly lower in the landscape is <i>Corymbia calophylla</i> / <i>Melaleuca priessiana</i> Low Woodland over <i>Hakea trifurcata</i> Shrubland over <i>Grevillea bipinnatifida</i> / <i>Dryandra nivea</i> / <i>Synaphea petiolaris</i> Low Shrubland over <i>Mesomeleana tetragona</i> / <i>Tricostularia meesii</i> / <i>Cyathochaeta avenecea</i> Closed Sedgeland.</p> <p>Vegetation is considered to have limited distribution within the applied area, as the majority of the area has been previously cleared as a firebreak. The vegetation surrounding the firebreak was identified as being primarily within a degraded condition, with only the tree layer retaining its structure. One area of vegetation within good condition was identified in the low-lying area of the second vegetation community.</p>		

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 is within a Threatened Ecological Community and Bush Forever Site 321, as well as being on the Register of the National Estate. These classifications are determined through the significance of various environmental attributes. CALM (2005) advise that Declared Rare and Priority Flora taxa have been recorded in close proximity to the applied area, as well as Threatened Ecological Community 3a. Collectively a high level of biodiversity is therefore likely to occur at this site. Based on the degraded nature of the areas under application it is considered that this proposal may be at variance to this Principle.

Methodology CALM (2005)
Site inspection (24/8/2005)

(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**

CALM (2005) advise that three Threatened fauna taxa and one Priority fauna taxon have been recorded within 5 kilometres of the notified area. These include the Specially Protected *Calyptorhynchus banksii naso* (Forest Red-tailed Black Cockatoo), *Dasyurus geoffroii* (Chuditch), *Leipoa ocellata* (Malleefowl), and the Priority Listed *Isoodon obesulus fusciventer* (Quenda).

Of the taxa listed as Specially Protected above, the threatened fauna species *Dasyurus geoffroii* (Chuditch) and *Leipoa ocellata* (Malleefowl) are also listed as 'Vulnerable' under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

CALM (2005) further advise that based on photographs provided during from the DoE site inspection, the vegetation within the notified area appears to be moderately degraded due to the degree of weed invasion. There is no evidence to suggest that that is proposed to be cleared contains significant habitat for indigenous fauna.

A site inspection undertaken by the Department of Environment on 22/07/2005 identified that the majority of vegetation within the applied area was in a degraded condition, and primarily limited to areas directly adjacent to the existing firebreak. The inspection did not identify any areas of vegetation which would provide habitat not well represented in the surrounding vegetated environment.

Methodology CALM (2005)
Site inspection (22/07/2005)

(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**

CALM (2005) advise that the area under application may provided habitat for populations of the following Declared Rare Flora (DRF) protected under the Wildlife Conservation Act 1950.

- *Drakaea elastica*
- *Tetaria australiensis*
- *Verticordia plumosa* var. *pleiobotrya*
- *Centrolepis caespitosa*
- *Thelymitra stellata*

Of the species listed above, DRF species *Centrolepis caespitosa*, *Drakaea elastica*, *Thelymitra stellata*, and *Verticordia plumosa* var. *pleiobotrya* are also listed as 'Endangered' under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999. Declared Rare Flora species *Tetaria australiensis* is listed as 'Vulnerable' under the EPBC Act.

A vegetation survey conducted by Syrinx Environmental Pty Ltd (2005) in early October 2005 did not identify any DRF species within the area under application.

Methodology CALM (2005)
Syrinx Environmental (2005)

(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

CALM (2005) advise that there are seven occurrences of Threatened Ecological Communities (TEC) within a 5 kilometre radius of the notified area, and two of these are listed as 'Endangered' under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

The Threatened Ecological Community dataset indicates that the notified area occurs within the extent of an occurrence of Type 3a *Eucalyptus calophylla* - *Kingia australis* woodlands on heavy soil (Critically Endangered, listed as 'Endangered' under the EPBC Act 1999).

The notified area also contains a vegetation association containing components found in Type 3c *Eucalyptus calophylla* - *Xanthorrhoea preissii* shrublands and woodlands (Critically Endangered / listed as 'Endangered' under the EPBC Act 1999). The recorded extent of this occurrence is approximately 55 metres from the perimeter of the notified area.

A TEC survey conducted by Syrinx Environmental Pty Ltd (2005) in early October 2005 identified one area of good condition vegetation adjacent to the proposed area under application. Species identified from a 10 x 10 metre plot within the good conditioned vegetation infer the presence of TEC 3a.

A site meeting between representatives of both the DoE and CALM occurred on 1/11/2005, to specifically address issues relating to the presence of TEC. CALM advised that if clearing was restricted to the areas immediately adjacent to the existing fire break, avoided the identified area of good condition vegetation, and the water tanks preferentially placed in the areas that are considered degraded, it was unlikely there would be a significant impact on the TEC. CALM also advised that a weed management condition to reduce edge effects and a condition to prevent the introduction of dieback would further reduce the potential for impact on the TEC by the proposal.

Methodology CALM (2005)
Site inspection (1/11/2005)
Syrinx Environmental Pty Ltd (2005)

(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

Heddle et al (1980) defines the vegetation under application as Guildford Complex. This has a representation of 5.0% and is classified as a mixture of open forest to tall open forest of *E. calophylla* - *E. wandoo* - *E. marginata* and woodland of *E. wandoo* (with rare occurrences of *E. lane-pooliei*). This complex currently has 0.2% vegetation in secure tenure (EPA, 2003), while JANIS (1997) recommends that 15% of the pre-1750 distribution of each vegetation ecosystem should be protected in a comprehensive, adequate and representative reserve system.

Vegetation under application is also classified as vegetation association 999 (Hopkins et al. 2001). This association has a representation of 11.8% of the pre- European extent, and is described as Medium Woodland; Marri (Shepherd et al. 2001)

The State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (Department of Natural Resources and Environment, 2002; EPA, 2000).

While these representation figures are below the recommended 30% target, the vegetation under application is recognised as being in a predominantly degraded condition, and unlikely to be representative of the vegetation complex.

	Pre-European area (ha)	Current extent (ha)	Remaining %	Conservation status****	% in reserves/CALM-managed land
IBRA Bioregion	1,529,235	657,450	43%*	Depleted	
Shire	90,478	53,038	58.6%*	Least Concern	
Local Area (~10km radius)					
Beard vegetation association - 999	275,380	32,451	11.8%*	Vulnerable	8.1%*
Heddle vegetation complex - Guildford Complex	92,497	4,662	5.0%**	Endangered	0.2%
Mattiske vegetation complex - Fo	37,106	11,371	30.6%***	Depleted	

* (Shepherd et al. 2001)

** (Heddle et al. 1980)

*** (Mattiske et al. 1998)

****(Department of Natural Resources and Environment 2002)

Methodology Heddle et al. (1980)
JANIS (1997)
EPA (2003)
Shepherd et al. (2001)
Department of Natural Resources and Environment (2002)
EPA (2000)
Mattiske et al. (1998)

(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

The majority of the area under application is categorised as a multiple use wetland with a 60m² area where it is proposed two water tanks are to be located which categorised as Resource Enhancement Wetland. Resource Enhancement Wetlands are considered priority wetlands that have been partially modified but still support substantial ecological attributes and functions.

Vegetation within the area under application is described by Syrinx Environmental (2005) as largely degraded with one small patch considered good condition vegetation. Given the degraded nature of the area of vegetation under application, the infestation of weeds and the relatively small scale clearing it is not considered likely that wetland functions or viability will be impacted.

Methodology Syrinx Environmental Pty Ltd (2005)
GIS Database:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DOE 15/09/2004

(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

Salinity Risk Mapping of the applied area identifies a low risk of salinity occurring within these areas. Given the small amount of vegetation under application, the low salinity risk and the soils within the area classified as having a Class 3 Acid Sulphate Soils risk (no known risk of ASS or PASS), the approval of this proposal is considered unlikely to be at variance with this principle.

Methodology Site inspection (22/07/2005)
GIS Databases:
- Acid Sulphate Soils risk map, SCP DOE 01/02/04
- Salinity Risk LM 25m - DOLA 001

(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

Brickwood Reserve has been identified as an area containing significant natural values, and as such is recognised through both listing within Bush Forever as site 321 (Government of Western Australia, 2000), and on the Register of the National Estate (Place ID: 19533).

CALM (2005) advises that the notified area is also adjacent to the 0.5 hectare Crown Reserve 37404, and provides a buffer to the western side of this reserve. The notified area is also within close proximity to a Crown Reserve vested in Local Government (Reserve 17490), and is linked to this reserve by way of Other Crown Reserve 37404, but does not appear to contribute significantly as an ecological linkage (except as part of a Threatened Ecological Community) between areas of remnant vegetation because of urban development in the surrounding area.

Given that the quality of the vegetation appears to be fair to moderately degraded based on the degree of weed invasion, and that the area proposed to be cleared is relatively small, it is unlikely that this proposal would have a significant impact on CALM managed areas or other reserves in the area.

The Bush Forever Office of the Department of Planning and Infrastructure advise that it is satisfied that the proposed location of the fire water tanks is suitable (DoE TRIM ref: 2005I/1470).

Methodology CALM (2005)
Government of Western Australia (2000)

(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 proposal is not expected to adversely impact on groundwater tables. Vegetation within the applied area is considered to be within a degraded state, with a relatively intact upperstorey and limited weed infested understorey. Based on the condition of the vegetation, previous clearing activities, and the limited area which is required for clearing, impacts on groundwater / surface water quality are not considered likely.

Methodology Site inspection (22/07/2005)

(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

Although the clearing of vegetation may increase water infiltration to the groundwater table, the scale and amount of clearing makes this application unlikely to have an appreciable impact on the average annual maximum groundwater level. The clearing is approximately 4 km from the nearest watercourse Wungong Brook. Due to the relatively small scale of clearing and distance from the nearest watercourse it is considered that the removal of vegetation from the site would have no impact on peak flood height or duration.

Methodology Site inspection (22/07/2005)
GIS Database:
- Hydrography, linear - DOE 01/02/04

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

Comments

A water capacity pump test conducted by FESA of the infrastructure around the Graceford Hostel site identified that the available water flow rates are not acceptable to adequately manage potential fire incidents (DoE TRIM ref: 2005I/1469). As a result, the installation of water tanks has been accepted by FESA as appropriately dealing with any on-site water availability issues.

No other statutory approvals from the DoE are required for this proposal.

Methodology

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Miscellaneous	Mechanical Removal	0.06	Grant	<p>The assessable criteria have been addressed, and the proposal has been found to be at variance to Principle (e), and may be at variance to Principles (d), and (a).</p> <p>The vegetation under application has been identified as being within an area known for its representation of the Threatened Ecological Community 3a, as well the Guildford Vegetation Complex, a complex recognised for being severely under represented. Despite this, the vegetation proposed for clearing is extremely limited in size and extent, and has been located within an area suffering from substantial weed invasion and degradation through edge effects. An on-site meeting between CALM and DoE officers identified that approval of the clearing is unlikely to impact on the TEC, and that weed management conditions on the proposal will further minimise impacts from edge effect.</p> <p>The assessing officer therefore recommends that the permit be granted subject to conditions on dieback and weed management.</p>

5. References

CALM Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref HD25034.

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.

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.

EPA (2003) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.

Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.

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

Mattiske Consulting (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.

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.

Syrinx Environmental Pty Ltd (2005). Declared Rare Flora, Priority Flora and Threatened Ecological Community Survey, Graceford Hostel. DoE TRIM ref: 2005I/1471.

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)