



1. Application details

1.1. Permit application details

Permit application No.: 1873/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Garry Douglas & Kim Lesley Fee

1.3. Property details

Property: LOT 2007 ON PLAN 203015 (House No. 800 CAPEL TUTUNUP TUTUNUP 6280)

LOT 2007 ON PLAN 203015 (House No. 800 CAPEL TUTUNUP TUTUNUP 6280)

Local Government Area: Shire Of Busselton

Colloquial name:

1.4. Application

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

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 1136: Medium woodland; marri with some jarrah, wandoo, river gum and casuarina (Hopkins et al. 2001; Shepherd et al. 2001).	The proposed clearing consists of 8 hectares of native vegetation to be cleared for the purpose of sand extraction.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The description of the clearing application area is based on two site inspections conducted by DEC officers on 11 & 19 October 2007.
Heddlle Vegetation Complex: Abba Complex: open forest of marri-jarrah-banksia and a woodland of marri (Heddlle et al. 1980).	The native vegetation under application comprises 2 distinct vegetation communities: a) an intact community of Banksia attenuata, Eucalyptus marginata low open forest with emergent Banksia illicifolia and Agonis flexuosa, over Kunzea glabrescens tall open scrub, over Xanthorrhoea prelsii, Melaleuca thymoides, Kunzea glabrescens open heath, over Xanthorrhoea brunonis, Dasypogon bromelifolius, Hibbertia species open low heath, over Hypolaena exsulca, Lyginia barbata sedges and mixed herbs; and b) Banksia illicifolia, Banksia attenuata low open forest, over Kunzea glabrescens, Podocarpus drouynianus open shrubland, over Hibbertia vaginata low open shrubland, over mixed native and introduced herbs and Briza maxima grasses.		

The applied area is

currently grazed by stock and approximately half of the area appears to have had the shrub layer removed by machinery.

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 area under application is located on a low Bassendean dune over the Abba Plain landform, which supports two distinct vegetation communities.

On the slightly lower edges of the dune landform is an intact vegetation community of *Banksia attenuata*, *Eucalyptus marginata* low open forest, with emergent *Banksia ilicifolia* and *Agonis flexuosa* in very good condition (Keighery, 1994; DEC, 2007). The western edge of this community supports a small population of the wetland species *Hypocalymma ericifolium*. While there is a small wetland adjoining this area, it is unusual to find this *Hypocalymma* species associated with the upland species as it is found within the applied area. The western edge of this community also supports a small population of the Rare species *Drakaea elastica* (DEC, 2007).

The higher part of the dune landform has had the shrub layer removed at some stage to create a vegetation community of *Banksia ilicifolia*, *Banksia attenuata* low open forest, over *Kunzea glabrescens*, *Podocarpus drouynianus* open shrubland, over *Hibbertia vaginata* low open shrubland, over mixed native and introduced herbs and *Briza maxima* grasses (DEC, 2007). Whilst this vegetation community has been heavily disturbed in the past and is currently grazed some shrub regeneration is occurring, the vegetation condition of this community is predominantly degraded, but has some areas that could be considered as good (Keighery, 1994). A population of the Rare species *Drakaea elastica* is also noted within this community.

The Abba Plain landform has been largely cleared for agriculture (Havel & Mattiske, 2002), with less than 6% of the pre-1750 extent remaining and 0.1% in secure tenure (EPA, 2006).

The species within the applied area and those found within the Ruabon-Tutunup Railway Reserve indicate the vegetation community of the area under application is comparable to Floristic Community 21b 'Southern *Banksia attenuata* woodlands', as recognised in the 1994 Floristic Survey of the Southern Swan Coastal plain by Gibson et.al. (DEC, 2007). This floristic community type is listed as a Priority 3 ecological community on the 2007 DEC list of Priority Ecological Communities for Western Australia.

Based on the above information, the vegetation under application is considered to represent high biological diversity and thus clearing is considered at variance to this Principle.

Methodology

Keighery (1994);
DEC (2007);
EPA (2006);
Mattiske & Havel (2002);

GIS Databases:

- Mattiske Vegetation Complexes -
- Environmentally Sensitive Areas - DoE 30/5/05;
- Bunbury 50cm ORTHOMOSAIC - DLI04

(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

The vegetation that is proposed to be cleared may be providing refuge habitat for local populations of a range of endemic fauna species, including but not limited to specially protected species. Although disturbed in parts, the area contains stands of large WA Peppermint (*Agonis flexuosa*), which are likely to be providing habitat for the Common Brush-tailed Possum (*Trichosurus vulpecula*) and the Western Ringtail Possum (*Pseudocheirus occidentalis*; VU). Possum scats were also identified under WA Peppermint trees on the site (DEC Site Visit, 2007).

Given the surrounding area has been predominantly cleared, the vegetation under application is considered to be significant as remnant habitat for local fauna populations; therefore the proposal is at variance to this Principle.

Methodology

DEC Site Visit (2007);
GIS Databases:
- Threatened Fauna SAC Biodataset - DEC, 25/6/07;
- Threatened Fauna Database - DEC;

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposal is seriously at variance to this Principle

The applied area is located approximately 2 km north of the fragile Ruabon-Tutunup Railway Reserve. This reserve is of state, regional and local biodiversity conservation significance as it contains remnant populations of flora communities that have been heavily cleared throughout the south west, including several species of threatened flora (EPA, 2002; Ecosystem Solutions Pty Ltd, 2007).

Within this rail reserve (5 km radius of the applied area) there are eight known DRF taxa and thirteen Priority Flora taxa (Threatened Flora Database; Ecosystem Solutions Pty Ltd, 2007). All species occur within the same vegetation complex and same soil type as the applied area.

During the site inspection (DEC, 2007), opportunistic sightings identified two populations of the Declared Rare *Drakaea elastica*, which would be directly impacted by the proposal. This species is currently endangered, with populations declining due to increased shading and competition by other species (CALM, 1998). The proposal is therefore seriously at variance to this Principle.

Methodology EPA (2002);
Ecosystem Solutions Pty Ltd (2007);
CALM (1998);

GIS Databases:
- Threatened Flora Database, DEC;
- DEFL SAC Biodataset - DEC;
- Bunbury 50cm ORTHOMOSAIC - DLI04

(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 several populations of four known threatened ecological communities within 5 km of the applied area, which are associated with the Ruabon-Tutunup Railway Reserve (TEC Database). These include the Floristic Communities SCP1b, SCP07 and SCP10b the closest of which being approximately 2.6km south west of the applied area.

The proposal is not likely to be at variance to this Principle as the clearing is not in close proximity to any known Threatened Ecological Communities.

Methodology DEC (2007);

GIS Databases:
- TEC SAC Biodataset - DEC 25/6/07;
- TEC Database - DEC;
- Bunbury 50cm ORTHOMOSAIC - DLI04

(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 seriously at variance to this Principle

Vegetation within the applied area is identified as a component of both Beard Vegetation Association 1136 and the Abba complex. These vegetation associations and complexes have 5.4% and 6.0% respectively, remaining of their pre-European extent (Shepherd 2006; EPA 2006).

	Pre-European (ha)	Current extent (ha)	Remaining %	%in reserves/DEC-managed land
Swan Coastal Plain*	1,529,235	657,450	38.1	-
Shire of Busselton*	145,966	64,905	44.5	-
Beard vegetation association**				
1136	48,127	2,611	5.4	4.0
Heddie vegetation complex***				
Abba Complex	53,302	3,198	6.0	0.1

* (Shepherd et al. 2001)

** (Shepherd 2007)

*** (EPA, 2006)

It is also noted that both Beard and Hedde vegetation types have less than 5,000 ha remaining, with Beard Vegetation Association 1136 having only 2,611 hectares recorded as remaining, and the Abba complex retaining 6.0%. Further, it is also noted that there is only 4.0% of Beard's Vegetation Association 1136 and even less (0.1%) of Hedde's Abba Complex in secure tenure. The vegetation under application is considered to be degraded (Keighery 1994) in the north east of the larger remnant and in good to very good condition to the south and west of this remnant DEC 2007).

Based on the above information and given that the local area (5km radius) retains approximately 15% native vegetation, the proposed clearing is seriously at variance to this Principle.

Methodology

- DEC(2007);
- EPA (2000);
- EPA (2006);
- Shepherd et al. (2001);
- Shepherd (2007);
- Hedde et al. (1980);
- Keighery (1994);

GIS databases:

- Hedde Vegetation Complexes - DEP 21/06/95
- 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 at variance to this Principle

The closest watercourse is a minor, perennial tributary of the Ludlow River, approximately 2.5 km north of the applied area. Given the distance, clearing is not expected to impact on this watercourse.

There are no mapped wetlands within the applied area; however during the site inspection (2007), several minor wetlands were identified within the property and within the applied area; therefore the proposed clearing is at variance to this Principle.

Methodology DEC Site Visit (2007);

GIS databases:

- ANCA, Wetlands - CALM 08/01;
- EPP Areas - DEP 06/95;
- EPP Lakes - DEP 28/07/03;
- Geomorphic Wetlands (Mgt Categories) Swan Coastal Plain - DoE 15/9/04;
- Hydrography Linear - DoE 1/2/04;
- RAMSAR, Wetlands - CALM 21/10/02

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

Comments Proposal is at variance to this Principle

Two sites are already waterlogged and removal of native vegetation is likely to cause waterlogging on some areas of the site. Also, the risk of eutrophication may increase with the removal of native vegetation. Additionally, 48% of the soil type 213AbABd is mapped as having a high risk of wind erosion (DAFWA 2007).

DAFWA (2007) advice indicated a low risk of salinity and water erosion.

The vegetation under application lies within soil units 213AbABd and 213AbABw (DAFWA, 2007). Soils of unit 213AbABd are associated with pale deep sands with some Grey deep sandy duplexes. Soils of unit 213AbABw are associated with poorly drained flats and depressions; wet and semi wet soils with Pale sandy earths and Pale deep sands (DAFWA, 2007).

Soils were observed to be grey sands, which are consistent with Northcote et al. (1960-68) (DEC Site Visit, 2007).

Based on the above, clearing is likely to cause appreciable land degradation and is therefore at variance to this Principle.

Methodology DAFWA (2007);
GIS Databases:

DAFWA (2007) advise if sand is to be extracted to a depth of one metre below current levels this will greatly increase the risk of waterlogging and eutrophication occurring.

The Shire of Busselton have advised that:

1. The vegetation is a significant remnant of the Abba Dry Complex, which is poorly represented; and
2. The Shire encourages the retention of remnant vegetation on private property through its Biodiversity Incentives Strategy (BIS). It is possible the vegetation on the site would meet the criteria under BIS and therefore qualify for a subdivision incentive, and through this process the vegetation could be protected in perpetuity and managed for its conservation values (DOC27695).

Methodology Public Submission (2007) (TRIM Ref. DOC26026);
DAFWA (2007);
Shire of Busselton Advice (2007)

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning Instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is:

- seriously at variance to Principle (c) and (e); and
- at variance to Principles (a), (b), (f) and (g), and (i); and
- not likely to be at variance to Principles (d), (h) and (j).

5. References

- AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.
- CALM, (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Perth.
- DEC Site Visit (2007). Department of Environment and Conservation, Western Australia. TRIM Ref: DOC37754.
- Department of Agriculture and Food Western Australia. (2007). DAFWA Advice RE: Application for clearing permit CPS1873/1. South Perth, Western Australia. TRIM Ref: DOC32643.
- 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.
- Ecosystem Solutions Pty Ltd (2007). Management Plan for the Ruabon-Tutunup Rail Reserve; prepared for the Ruabon Tutunup Rail Reserve Preservation Group, Dunsborough.
- EPA (2002). Report and Recommendation of the EPA on the Tutunup Titanium Mineral Sands Mine (Cable Sands (WA) Pty Ltd), Bulletin 1085.
- Havel, J.J. and Mattiske Consulting Pty Ltd (2002) Review of management options for poorly represented vegetation complexes, Conservation Commission.
- 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.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment 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.
- Public Submission, (2007). Advice RE: Application to clear native vegetation - CPS1873/1. TRIM Ref. DOC26026.
- 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

- Salinity Risk LM 25m - DOLA 00;
- Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC

(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 several formal conservation reserves within 10 km of the applied area, with the closest being the Ruabon Townsite Nature Reserve, approximately 4.3 km south west.

Approximately 40% of the surrounding land is managed by DEC for conservation purposes.

Considering the scale and the proposed clearing and distance, it is unlikely to impact on the values of any nearby conservation area.

Methodology GIS Databases:

- CALM Managed Lands and Waters - CALM 1/7/05;
- Register of National Estate - EA 28/1/03;
- Bunbury 50cm ORTHOMOSAIC - DLI04

(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 at variance to this Principle

Soils within the Abba wet flats are generally poorly drained; DAFWA (2007) advises two sites within the applied area are currently waterlogged and that removal of native vegetation is likely to cause water logging on some areas of the site. Also the risk of eutrophication may increase with the removal of native vegetation.

The area under application is surrounded by palusplain wetlands (Multiple use wetlands) and clearing is likely to impact on the surface water quality of the surrounding wetlands and is therefore at variance to this Principle.

Additionally, the associated purpose of sand extraction has a very high risk of causing eutrophication (DAFWA, 2007).

Methodology DAFWA (2007);

GIS Database:

- Geomorphic Wetlands (Mgt Categories) - Swan Coastal Plain - DoE 15/9/04

(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

Flooding impacts are unlikely to occur as a result of the proposed clearing due to its size and location.

The applied area is located approximately 2.5 km from a tributary of the Ludlow River, at an elevation between 10-15m. It is considered the removal of vegetation at this site would have no impact on peak flood height or duration.

Methodology GIS Databases:

- Hydrography, Linear - DoE 1/02/04;
- Topographic Contours, Statewide - DOLA 12/9/02;
- Rainfall, Mean Annual - BOM 30/9/01

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

Comments

A Public Submission (2007) has been received commenting that they do not support the application to clear, for the following reasons:

1. The vegetation proposed for clearing is the Abba Complex;
2. According to EPA Guidance Statement No.10 there was 6% remaining of the Abba Complex in 1997/98;
3. 0.1% of the pre-1750 extent of the Abba Complex was in secure tenure in 2002;
4. The nearby Ruabon Nature Reserve contains Western Ringtail Possum (WRP), a Schedule 1 species that is listed as vulnerable on the IUCN - World Conservation Union Red List of Threatened Species;
5. The WRP is listed as vulnerable under the EPBC Act;
6. Fauna surveys should be conducted by a qualified zoologist; and
7. Flora surveys should be conducted by a qualified botanist to determine the presence/absence of Declared Rare Flora.

These issues have been addressed within the clearing principles.

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)

