



1. Application details

1.1. Permit application details

Permit application No.: 1228/1
 Permit type: Area Permit

1.2. Proponent details

Proponent's name: Grass Tree Flats

1.3. Property details

Property: LOT 2690 ON PLAN 203062 (Lot No. 2690 JAMISONS CHAPMAN HILL 6280)
 Local Government Area: Shire Of Busselton
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
12.8		Mechanical Removal	Grazing & Pasture

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 Veg 1136: Medium woodland; marri with some jarrah, wandoo, river gum and casuarina.	Site photos indicate that the condition of vegetation has regenerated, from past clearing and fires, extremely well and very quickly. The duplex soils provide a high diversity of species. Jarrah-marri woodland is predominate over the area proposed to be cleared.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Condition of vegetation was identified during a site visit by a regional officer inspecting illegal clearing on site. In addition site visit photo's from that inspection and from DAFWA's site report also provided information on vegetation and substrate.
Mattiske 'Ad' Abba complex: Pale grey to white siliceous sand over 1m deep, with organic stained topsoil, very infertile. Woodland of <i>Corymbia calophylla</i> , <i>Agonis flexuosa</i> , <i>Allocasuarina fraseriana</i> and <i>Nuytsia floribunda</i> , <i>Calothamnus sanguineus</i> , <i>Stirlingia latifolia</i> , <i>Patersonia occidentalis</i> , <i>Melaleuca thymoides</i> , <i>Acacia extensa</i> , <i>Hypocalymma robustum</i> , <i>Mesomelaena tetragona</i> , <i>Kunzea micromera</i> and <i>Pultenaea reticulata</i> .			
Mattiske 'Af' Abba complex: Grey sand overlying brownish sandy loam grading to sandy clay below 0.5m, Mildly water shedding via subsoil, well drained due to strongly incised stream nearby moderately fertile Open Forest of <i>Corymbia calophylla</i> <i>Agonis flexuosa</i> , <i>Acacia saligna</i> and <i>Persoonia longifolia</i> <i>Acacia extensa</i> , <i>Hakea lissocarpha</i> , <i>Leucopogon capitellatus</i> , <i>Bossiaea ornata</i> , <i>Bossiaea linophylla</i> , <i>Mesomelaena tetragona</i> , <i>Anigozanthos</i>			

viridis, Hibbertia
hypericoides and
Phyllanthus calycinu.

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 proposed to be cleared has a past history of clearing and fires, however recent site photo's show that the vegetation has regenerated extremely well. The condition of the vegetation is described as being 'very good' (Keighery, 1994).

Advice from the Species and Communities Branch (SACB), DEC states that as the proposed clearing area has duplex soils, with grey sandy areas and some ironstone, the diversity of species is likely to be much greater. The area is also suspected to provide good habitat for some species of Declared Rare Flora (DRF). SACB also stated that there is a possibility of the Threatened Ecological Community (TEC) SCP 02 being located within the property.

The area proposed to be cleared is part of the poorly represented Abba complex 'Af'. Aerial photos show that the proposed clearing area holds some of the last remaining vegetation of this type in regional surrounds (25km radius). Indicating that the area has higher diversity of that vegetation type than other ecological communities in the surrounding area.

Given the area is likely to contain a wide variety of species and contains one of the few remaining stands of Abba complex 'Af' it is considered that the clearing is at variance to this principle.

Methodology Keighery (1994)
DAFWA (2006)
Mattiske vegetation - CALM
GIS Databases:
- SAC bio datasets
- Mattiske Vegetation - CALM 24/03/98

(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 may be at variance to this Principle**

Abba ad and af soil complexes have been identified on this property (DAFWA, 2006). These soils are normally characterised by stands of *Agonis flexuosa* which are considered to be the main feeding habitat for the Western Ringtail possum (*Pseudocheirus occidentalis*). During the DAFWA (2006) site inspection no *Agonis flexuosa* species were observed, indicating that this feeding habitat is not threatened by the proposed clearing.

The property adjacent to the notified area has been referred to in the Vasse River Action Plan as being conserved as a wildlife corridor. Clearing within the notified area may impact the movement into and out of this corridor.

Clearing approximately 13 ha of 'very good' condition (Keighery, 1994) vegetation in a landscape that is moderate - highly cleared is likely to have some impact on native fauna. Surrounding land is predominantly cleared for agriculture and removal of vegetation is likely to affect fauna corridors, nesting and feeding habitats. However, to the south of the proposed clearing is the extensive portion of Blackwood state forest that provides a large block of contiguous vegetation for fauna to utilise.

Given the above aspects the proposed clearing may be at variance to this principle.

Methodology Keighery (1994)
DAFWA (2006)
GIS Databases:
- SAC Bio datasets
- Busselton 50cm Orthomosaic - DLI 04

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

Comments **Proposal may be at variance to this Principle**

The following species of rare flora have been recorded within the local area (10km radius)

Caladenia procera

R 1 record

Chamelaucium roycei	R	5 records
Darwinia sp. Williamson (G.J. Keighery 12717)	R	1 record
Daviesia elongata subsp. elongata	R	9 records
Dryandra nivea subsp. uliginosa	R	10 records
Dryandra squarrosa subsp. argillacea	R	8 records
Gastrolobium modestum	R	9 records
Grevillea brachystylis subsp. Busselton (G.J. Keighery s.n. 28/8/1985)	R	9 records
Tetraria australiensis	R	2 records
Verticordia densiflora var. pedunculata	R	2 records
Verticordia plumosa var. ananeotes	R	8 records
Verticordia plumosa var. vassensis	R	6 records
Dryandra mimica	R	2 records

Numerous Priority species have also been recorded in the local area.

Advice from the Species and Communities Branch (SACB) within DEC indicates that the proposed area to be cleared presents likely habitat for numerous of these species. The differing soil types within the notified area, of ironstone and grey sandy soils, are indicative of high species diversity. SACB recommends that an extensive flora survey be undertaken within the property.

Methodology DEC Site visit (2006)
GIS Databases:-
- SACBiodatasets - 25/06/07
- Busselton 50cm Orthomosaic - DLI 04

(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

Within the local area (10km radius) the following Threatened Ecological Communities (TECs) have been recorded.

SCP 10b - 7 records
SCP 02 - 8 records
SCP 1b - 9 records
SCP 07 - 1 record

Advice from Species and Communities Branch (SACB), DEC states that substrate and vegetation characteristics may be indicative of SCP 02, which is found nearby to the north. However advice received is not conclusive, as specific flora species are not able to be clearly identified from site photo's. More information in the form of a survey is required to determine the likely presence of the TEC.

Methodology GIS Databases:
- SAC Bio datasets - 25/06/07

(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

Pre-European IBRA Bioregion	Current Extent	Remaining	%Conservation status	secure tenure
Swan Coastal Plain (SWA) all veg types	1,529,235.00	657,450.00	43.0	Depleted
SWA 1136 veg type	48,120.71	2,605.03	5.4	Endangered
Shire of Busselton	145,966.00	64,905.00	44.5	Depleted
Beard Unit 1136	48,127.66	2,611.43	5.4	Endangered 1.2
Mattiske Veg complex Af	4,486.21	414.44	9.2	Endangered 0
Mattiske Veg complex Ad	1,208.45	334.40	27.7	Vulnerable 0

As noted above, the vegetation to be cleared is Beard Vegetation association 1136 of which only 5.4% is remaining. Additionally the vegetation forms part of Mattiske Vegetation Complex Abba (Af) of which only 9.2% is remaining, with none in secure tenure.

The vegetation proposed to be cleared is regrowth, which has been described as being jarrah-marri woodland. Site visit photo's from the DAFWA (2006) inspection show that the vegetation has a relatively dense understorey and appears to be in 'very good' condition (Keighery, 1994).

Aerial photography indicates that the proposed clearing area is actually one of the few remaining stands of vegetation type 'Af' within a 25km radius.

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

Methodology Department of Natural Resources and Environment (2002)
EPA (2000)
DAFWA (2006)
Keighery (1994)
Shepherd et al 2006
Hopkins et al (2001)
GIS Databases:
- Pre-European Vegetation
- Matiske Vegetation - CALM 24/03/98
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Busselton 50cm Orthomosaic - DLI 04

(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 may be at variance to this Principle

The area proposed to be cleared has not been officially mapped for the presence of wetlands. However DAFWA identified soils of Map unit 213AbAB1 which are characterised as being "semi-wet soils and pale deep sands with some grey deep sandy duplexes". Vegetation types within the proposed area to be cleared are also indicative of some seasonal inundation

The nearest watercourse is the Vasse River which lies 300m away, to the south and east, from the proposed clearing and flows from south to north past the property. Vegetation within the proposed clearing area does not appear to be associated with the watercourse riparian zone.

As there is no mapping to confirm the presence of a wetland it can not be conclusively stated that the clearing is at variance to this principle. However as there are indications of seasonal inundation the clearing may be at variance to this principle.

Methodology DAFWA (2006)
Shepherd (2001)
Hopkins (2001)
GIS Databases:
- Hydrography Linear (hierachy) - DOW
- Busselton Orthomosaic - DLI 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 area is elevated to a level of 40m and falls within the 900mm rainfall isohyet. The superficial groundwater level on site appears to be relatively low as indicated by a soak on the property.

There is no Acid Sulfate Soil (ASS) mapping for the proposed clearing area, however nearby mapping would seem to indicate that the risk of ASS would be low to none.

Clearing native vegetation on sandy soils may result in some wind erosion, however the level and severity is dependant upon future land use. A report by DAFWA (2006) indicates that water erosion, waterlogging and salinity risks are low.

The proposed clearing is unlikely to be at variance to this Principle.

Methodology DAFWA (2006)
GIS Databases:
- Acid Sulfate Soil Risk Map - Lower South West
- Acid Sulfate Soil Risk Map - Swan Coastal Plain

(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 may be at variance to this Principle

Two areas managed for conservation are located within a ten kilometre radius of the proposed clearing:

Blackwood State Forest - 2.1km to the south
Millbrook State Forest - 9km to the south east.

Although not contiguous with the aforementioned conservation areas, the vegetation that is proposed to be cleared would provide some connectivity to assist local fauna (particularly avian fauna and macropod) populations moving through the landscape.

There are a number of covenants are recorded within 10 kilometres of the proposed clearing. The proposal is not likely to impact on these conservation areas due to their distance from the proposed clearing area.

The property adjacent to the notified area has been referred to in the Vasse River Action Plan as being conserved as a wildlife corridor. Clearing within the notified area may impact the movement into and out of this corridor.

It is considered that the clearing may be at variance to this proposal.

Methodology Vasse River Action Plan
GIS Databases:
- SAC Biodatasets - 25/06/07
- Busselton 50cm Orthomosaic
- CALM Managed Land and Waters - CALM 01/07/05

(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 proposed to be cleared is dissected by the boundary between two catchments - the Buayanup River and the Upstream Vasse_Sabina. This area lies within the Busselton Coast basin.

The Vasse River lies approx 300m away and flows from the south to the north past the property. The Vasse River Action Plan (2000) indicates that the condition rating of the river and its banks near the proposed clearing site ranges from pristine - weedy. A report from DAFWA (2006) indicates that drainage from the property would move south and into the Vasse river.

The area is not mapped for Acid Sulfate Soils, however nearby mapping indicates of trend of none - low risk of Acid Sulfate Soils.

DAFWA advice stated that the proposed clearing is unlikely to significantly increase surface run-off. There may be a minimal increase in sediment transport towards the Vasse River, however the distance and other vegetated buffering should inhibit the impact of this. Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology DAFWA (2006)
Vasse River Action Plan (2000)
GIS Databases:
- Acid Sulfate Soil Risk Mapping - Lower South West - DEC
- Hydrographic Catchments - Catchments - DOW

(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**
A report by DAFWA indicates that the area proposed to be cleared is well drained and increase surface run-off is unlikely. This proposal is unlikely to be at variance this principle.

Methodology DAFWA (2006)

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

Comments
The area proposed to be cleared falls within the Busselton Aboriginal Site of Significance.

The area is zoned agriculture.

This clearing application received approximately eight submissions from local environment groups, landholders and local government. A submission received by the Shire of Busselton does not support the clearing due to the low vegetation representation which is at variance to their biodiversity incentives strategy.

Advice from DAFWA stated that the clearing may be at variance due to the possibility of eutrophication. DAFWA states that "if improved pastures are established significant changes should be minimal. The amount of change will be directly related to stocking rates and water table depths."

Methodology

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Grazing & Pasture	Mechanical Removal	12.8	This application has been assessed and found to be at variance to principle (e) and maybe at variance to principle (c), (d) and (h). In addition the Shire of Busselton does not support the clearing as it is at variance to their Biodiversity Incentives Strategy.

5. References

- DAFWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM ref doc11839
- 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.
- Mattiske Consulting (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.
- 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.
- 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)