



1. Application details

1.1. Permit application details

Permit application No.: 562/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Jeremy and Julia Gorman

1.3. Property details

Property: LOT 3009 ON PLAN 89352 (UDUC 6220)
Local Government Area: Shire Of Harvey
Colloquial name: Rodgers Rd - Vol 731/124 Lot 3009 on Plan 89352

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.5		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 Vegetation association 1000: Mosaic, Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree (Melaleuca spp.) (Hopkins et al. 2001, Shepherd et al. 2001).	The proposal includes clearing of 2.5ha of regrowth that was mechanically cleared ~ 7 years ago.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Most of the vegetated section of the area under application is covered with a regrowth comprising <i>Kunzea glabrescens</i> with a sparse covering of introduced annual species in the understorey, such as <i>Ursinia anthemoides</i> , <i>Hypochaeris</i> and <i>Arctotheca calendula</i> and occasional clumps of bracken (Smith 2006).
Heddlie Vegetation Complex Bassandean Complex Central and/ South: Woodland of <i>E. marginata</i> - <i>E. calophylla</i> with well defined second storey of <i>Allocasuarina fraseriana</i> and <i>B. grandis</i> on the deeper soils and a closed scrub on the moister sites. The understorey species reflect similarities with the adjacent vegetation complexes. (Heddlie et al. 1980).	The vegetation under application consists of regrowth dominated by <i>Melaleuca incana</i> . Most large trees have been removed. Other species within the property include <i>Xanthorrhoea preissii</i> , <i>Macrozamia riedlei</i> , <i>Melaleuca praissiana</i> , some Jarrah (<i>Eucalyptus marginata</i>), <i>Conostylis</i> spp. and Marri (<i>Corymbia calophylla</i>), bracken fern (<i>Pteridium esculentum</i>), <i>Bossiaea</i> spp., <i>Nuytsia floribunda</i> and <i>Juncus pauciflorus</i> .		

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 proposed clearing of 2.5ha is of vegetation in degraded to good condition. The area has been identified as a native woodland comprising of regrowth dominated by *Kunzea glabrescens* with a sparse covering of introduced annual species in the understorey, such as *Ursinia anthemoides*, *Hypochaeris glabra* and *Arctotheca calendula* and occasional clumps of bracken fern (Smith 2006).

The area under application is located within a Multiple Use wetland and is surrounded by the Myalup State Forest. Multiple Use wetlands have been identified as wetlands with few ecological attributes or functions remaining (DoW 2001). Based on aerial imagery, it would appear that the area under assessment has been cleared within the last decade and that native vegetation has begun to regenerate. The applicant also

acknowledges previous clearing approximately 7 years ago, when a powerline was put through the property.

Due to historical clearing and the level of disturbance at this site, it is unlikely the vegetation under application is representative of an area of outstanding biodiversity in the Bioregion or local area, and is not likely to be at variance with this principle.

Methodology DEC Site visit (2006);
Smith (2006);
Biodiversity Coordination Section, DEC (2005);
GIS Databases:
- Mattiske Vegetation - CALM 23/3/98;
- CALM Managed Lands and Waters - CALM 1/06/04

(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**
The clearing proposed consists of an area 2.5ha in size and is surrounded by State Forest (DEC Site visit, 2006).

Biodiversity Coordination Section, DEC (2005) indicate that one specially protected species under the Wildlife Conservation Act is known to occur in the area (Australasian Bittern *Botaurus poiciloptilus* VULNERABLE); and five priority listed fauna: Black-stripe Minnow, *Galaxiella nigrostriata* P3; Masked Owl (SW ssp) *Tyto novaehollandiae novaehollandiae* P3; Hooded Plover (Western subspecies) *Charadrius rubricollis rubricollis* P4; Little Bittern, *Ixobrychus minutus* P4; and Water-rat (Rakali) *Hydromys chrysogaster* P4 are known to occur in the area. 'There is no evidence to suggest that the land under assessment contains swamps, streams or estuaries, or that it is seasonally inundated. It is therefore unsuitable habitat for Australasian Bittern *Botaurus poiciloptilus*, Little Bittern *Ixobrychus minutus*, Black-stripe Minnow *Galaxiella nigrostriata*, or Water-rat (Rakali) *Hydromys chrysogaster*. Partially regenerated vegetation, as likely to be present at the site of the proposed clearing is not the preferred habitat for Hooded Plovers (Western subspecies) *Charadrius rubricollis rubricollis*. Partially regenerated vegetation is likely to provide hunting grounds for Masked Owls (SW ssp) *Tyto novaehollandiae novaehollandiae*, however this type of modified vegetation is well represented elsewhere. The proponent's expressed intention to retain trees above 3m in height will afford some habitat that is suitable for avian fauna, although it would appear to be limited in the context of the property.

The clearing of regrowth vegetation for the establishment of buildings and pasture is unlikely to be at variance with this clearing Principle.'

Methodology DEC Site visit (2006);
Biodiversity Coordination Section, DEC (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**
Biodiversity Coordination Section, DEC (2005) advise 'DRF *Drakaea micrantha* ms occurs some 8km to the south. This species grows in grey sand along the coastal plain, and is often observed in open disturbed sites where competition from other plants has been removed. There is therefore a possibility that this declared rare taxa may occur at this site, however, given the disturbed nature of the site, if this was the case it is not likely to support a viable population.'
'DRF *Diuris purdiei*'s preference for seasonally inundated soils are unlikely to be met within the area that is proposed to be cleared, and its presence at this site is therefore doubtful.'
'Priority taxa *Boronia capitata* subsp. *gracilis* P2, *Myriophyllum echinatum* P3, and *Rhodanthe pyrethrum* P3 are typically recorded from winter wet flats and are therefore unlikely to be found on this site.'
'*Acacia semitrullata* P3, *Haloragis tenuifolia* P3, *Caladenia speciosa* P4, and *Jacksonia sparsa* ms P4 have been recorded from a broad range of soil, vegetation complexes and given that they occur locally there is a possibility that they may occur on site, however past land uses and clearing regimes would have impacted on any populations that may have been present.'

Given the above information a targeted survey by a qualified botanist was undertaken to determine if DRF *Drakaea micrantha* ms is present at the site of the proposed clearing. Smith (2006) advise that 'no *Drakaea micrantha* or any other DRF or priority species were found' during a survey in October 2006'.

The proposal is therefore not likely to be at variance with this principle.

Methodology Biodiversity Coordination Section, DEC (2005);
Smith (2006);
GIS Database:
- Declared Rare and Priority Flora List - CALM 01/07/05

(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

Three Threatened Ecological Communities (TEC's) occur within the local area (10km radius). The nearest is located approximately 2.7km southeast of the area under application, and therefore it is not expected that this proposal will impact upon any of these known occurrences.

Biodiversity Coordination Section, DEC (2005) advised that 'given the degraded, disturbed condition of the vegetation on the site, past land uses, and the habitat characteristics of the known TEC's in the local area, there is a low likelihood of TEC's being present on the site.

It is therefore concluded the clearing proposal is not likely to be at variance with this principle.'

Methodology Biodiversity Coordination Section, DEC (2005);

GIS Databases:

- Threatened Ecological Communities - CALM 12/04/05;
- Threatened Plant Communities - DEP 06/95;
- Environmentally Sensitive Areas - DOE 30/05/05

(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 not at variance to this Principle

The vegetation at the site is a component of Beard Vegetation Association 1000 (Hopkins et al. 2001) of which there is 24.6% (Shepherd et al. 2001) of the pre-European extent remaining and therefore a 'vulnerable' status for biodiversity conservation (Department of Natural Resources and Environment 2002). The vegetation under application is also a component of Heddle Complex Bassendean Central and/South, of which there is 27% (Heddle et al. 1980) of the pre-European extent remaining (also 'vulnerable' status).

The property is located within the Harvey Shire of which there is 80.1% of pre-European extent remaining.

Given the low percentage remaining of vegetation complexes, the condition of the vegetation under application, the surrounding state forest and the history of previous clearing the area under application may be considered to be a significant remnant.

Methodology DEC Site visit (2006);

Smith (2006);

Department of Natural Resources and Environment (2002);

Shepherd et al. (1980);

Hopkins et al. (2001);

Heddle et al. (1980);

GIS databases:

- Heddle Vegetation Complexes - DEP 21/06/95;
- Interim Biogeographic Regionalisation of Australia - EM 18/10/00;
- Local Government Authorities - DLI 8/07/04;
- 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

There are approximately 40 Resource Enhancement areas in the local area (10km radius), the closest being 775m north of the area under application. Approximately fifty four EPP lakes are located within the local area the, closest being 419m south east of the area under application.

The Peel Yalgorup RAMSAR wetland system / Yalgorup Lakes System (ANCA) are 7km west of the area under application and the Bengier Swamp ANCA area is 7.4km south east of the area under application.

There is approximately thirty Multiple Use wetland (dampland) within the local area (10km radius). The proposed clearing is within an identified multiple use wetlands and these have been defined as wetlands with few ecological attributes and functions remaining.

There are approximately fifty Conservation category wetlands in the local area, the closest being 32m north of the area under application. A small part (approximately 0.15ha) of the area under application falls within the 50m buffer of a conservation category wetland and is therefore considered to be within an Environmentally Sensitive Area (ESA) as identified under the Environmental Protection Act 1986.

Given the above it is considered that the vegetation under application is growing in association with a wetland

and is at variance to this clearing principle. Further a condition will be imposed to excluded a 50m buffer of a nearby conservation category wetland to protect its values.

Methodology GIS databases:
- ANCA, Wetlands - CALM 08/01
- 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 may be at variance to this Principle**

The area under application is mapped as containing a moderate risk of acid sulphate soils. However the proposed clearing is unlikely to impact on any acid sulphate soils present.

DAFWA advice (2005) states 'there is a high risk of wind erosion on the property. However this is unlikely to be a problem providing adequate ground cover is maintained'.

Therefore the proposed clearing may be at variance to this principle and a condition will be imposed to ensure groundcover is managed.

Additionally the applicant has prepared a management plan (as advised by the local DAFWA since the abovementioned report) to remedy wind erosion by planting perennial grasses such as Kikuyu and Rhodes grass to prevent soil loss. The applicant has also advised that retention of a majority of larger trees on the property to act as windbreaks will occur.

Further advice from DAFWA (2007) indicates that prevention of wind erosion is largely an issue of grazing management and or protection by wind breaks. The applicant proposes both approaches.

Methodology DAWA, 2005;
DAFWA, 2007
GIS Database:
- Acid Sulphate Soil Risk Map, Swan Coastal Plain DOE 02/02/04

(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 a number of areas of conservation significance in close proximity to the area under application. Biodiversity Coordination Section, DEC (2005) advise 'the vegetation that is proposed to be cleared is relatively small in area, and appears to be degraded from past clearing regimes. Clearing this vegetation is unlikely to impact upon the environmental values of the adjacent Myalup State Forest. The identified Nature Reserves are sufficiently far away as to be unaffected by the proposed clearing. BCS advises that the proposed clearing is not likely to be at variance with this principle.'

Conditions will be imposed to manage the spread of weeds into the surrounding state forest.

Methodology Biodiversity Coordination Section, DEC (2005);
GIS Databases:
- CALM Managed Lands and Waters - CALM 01/08/04;
- Cadastre - DLI 1/09/04

(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**

The area proposed to be cleared is within the Myalup Diversion - Harvey River Hydrographic Catchment Area. A low salinity risk has been mapped for the area under application, and it is not within a proclaimed surface water area under the Rights in Water and Irrigation Act 1914.

Given the small scale of the proposed clearing, degradation of local water quality is unlikely to occur.

Methodology GIS databases:
- CAWSA Part2A clearing control catchment - DoE 17/11/05
- Evaporation isopleth - BOM 09/98
- Hydrogeology, statewide - WRC 05/02/02
- Hydrographic Catchments, Catchments - DoE 3/4/03

- PDWSA, Gazetted - WRC 01/11/02
- Public Drinking Water Source Areas (PDWSAs) - DOE 29/11/04
- Rainfall, Mean Annual - BOM 30/09/01
- RIWI Act, Groundwater Areas - WRC 13/06/00
- RIWI Act, Surface Water Areas - WRC 18/10/02
- Soils, statewide - DA 11/99

(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 proposed clearing of 2.5 ha will not impact on or exacerbate flooding, therefore the proposal is unlikely to be at variance with this principle.

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

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

Comments
 The property is zoned General Farming and Forestry in the Town Planning Scheme.
 No submissions were received for the clearing proposal.

DAFWA (2005) advised that there is a moderate risk of eutrophication however this can be managed by carefully managing and monitoring the amounts of fertiliser applied to the site and using perennial pastures enabling a larger percentage of nutrients to be stripped by the pasture before escaping the root zone. Further advice indicated that the risk of eutrophication is associated with the intended agricultural use (DAFWA, 2007). The applicant has prepared a management plan (as advised by the local DAFWA since the abovementioned report) that will strategically plant *C. aplymensis* (Tagasaste) as a natural nitrogen fixer.

Methodology DAFWA, 2005
 DAFWA, 2007
 GIS database:
 - Town Planning Scheme Zones - MFP 8/98
 - WRL, Properties, Surface Water Licences - WRC (Current)
 - WRL, Properties, Ground Water Licences - WRC (Current).

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Grazing & Pasture	Mechanical Removal	2.5	Assessable criteria have been addressed, and the proposal is at variance to Principles (f); may be at variance to principle (g); and is not likely to be at variance to all other principles. Conditions imposed relating to ground cover maintenance and no clearing within 50m buffer of conservation category wetlands are recommended.

5. References

Biodiversity Coordination Section, DEC (2005). Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref SWD43275.

DAFWA (2005). Land degradation assessment and advice report, office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref SWO26761.

DAFWA (2007). Land degradation assessment and advice report, office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref DOC20459.

DEC Site visit (2006). Department of Environment and Conservation, Bunbury.

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.

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.

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.

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.

Smith (2006). Report on a targeted search for DRF orchid *Drakaea micrantha* on Lot 3009 off Rodgers Road south west of Harvey, the property of Mr J. Gorman, October 2005.
Water and Rivers Commission (2001). Wetlands Position Statement, Water and River Commission, 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)