



1. Application details

1.1. Permit application details

Permit application No.: 1052/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Western Australian Meat Industry Authority (WAMIA)

1.3. Property details

Property: LOT 5 ON PLAN 49665 (House No. 121 MUCHEA EAST MUCHEA 6501)
Local Government Area: Shire Of Chittering
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.34		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
<p>Beard Vegetation Associations:</p> <ul style="list-style-type: none"> - 4: medium woodland; marri and wandoo. - 1020: mosaic: medium forest; jarrah/marri/medium woodland; marri-wandoo. (Shepherd et al. 2001, Hopkins et al. 2001). <p>Heddle Vegetation Complexes:</p> <ul style="list-style-type: none"> - Mogumber Complex - South: Open woodland of Eucalyptus calophylla, with some admixture of E. marginata and a second storey of E. todiana - Banksia attenuata - B. menziesii - B. illicifolia. - Raegen Complex: Vegetation ranges from low open woodland of Banksia species Eucalyptus todiana to closed heath depending on the depth of soil (Heddle et al 1980) <p>Mattiske Vegetation Complexes:</p> <ul style="list-style-type: none"> - Mogumber (Mb): Open woodland of Corymbia calophylla with some mixture of Eucalyptus marginata subsp. thalassica and a second storey of Eucalyptus todiana-Banksia 	<p>The vegetation proposed to be cleared (2.34ha) comprises of a number of small vegetated areas. The clearing is required for the construction of the Western Australian Meat Industry Association Muchea livestock facility and associated infrastructure. The property on which the clearing is proposed is approximately 302ha, comprising mostly cleared pasture with few remnants of trees and shrubs (Thompson Partners 2005, Landform Research 2005). The site has been used for pasture and grazing for a number of years (Thompson Partners 2005, Landform Research 2005).</p> <p>The vegetation under application is predominantly Corymbia calophylla and Eucalyptus wandoo woodland with very little understorey (Landform Research 2005). The understorey that is present is predominantly Hakea lissocarpha, Desmodium fasciculatus, Dryandra bipinnatifida, Phyllanthus calycinus, Bossiaea eriocarpa, Dryandra lindleyana var. mellicula and Dryandra armata var. armata (Landform Research, 2005). On the higher clayey slopes, Eucalyptus accedens is added and Corymbia</p>	<p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)</p>	<p>The vegetation clearing description is based on the information provided by the proponent (Landform Research 2005), and from the site inspection (TRIM Ref. DOC1104).</p>

attenuata-Banksia
menziesii-Banksia ilicifolia
on sandy-gravels on the
uplands in arid and perarid
zones.

- Reagen (Re): Open
woodland of Corymbia
calophylla with some
mixture of Eucalyptus
marginata subsp.
thalassica and a second
storey of Eucalyptus
todtiana-Banksia
attenuata-Banksia
menziesii-Banksia ilicifolia
on sandy-gravels on the
uplands in arid and perarid
zones (Mattiske Consulting
1998).

calophylla drops out
(Landform Research 2005).

A site inspection
(29/06/2006) of the
property and the vegetation
under application revealed
that the area is largely park
land cleared with sheep
grazing the majority of the
property. The vegetation
under application contains
an intact canopy layer with
very little understorey and
ranges in vegetation type
from scattered, isolated
trees to pockets of
woodland.

A flora survey conducted
by Landform Research
(2005) concluded that the
vegetation most likely to be
impacted upon the
proposed development did
not have a high level of
species diversity and was
classified as Degraded to
Completely Degraded.

There are two creeklines
running east-west across
the property on the
northern and southern
boundaries (Thompson
Partners 2005, Landform
Research 2005). The
southern creekline has
been fenced as part of a
rehabilitation program
(Thompson Partners 2005,
Landform Research 2005).
A small stand of Melaleuca
and associated dampland
vegetation occur in the
central south west portion
of the property, however
this does not form part of
the area under application
(Landform Research 2005).

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 vegetation proposed to be cleared comprises approximately 2.34 ha within several small vegetated areas of the central portion of a 302ha property. The property is mostly cleared pasture with localised patches of remnant vegetation (Thompson Partners 2005).

A vegetation survey conducted in August and November 2004 identified the community of the vegetation under application as Corymbia calophylla-Eucalyptus wandoo remnant woodland, with a total of seventeen species recorded during the survey (Landform Research 2005).

The site has been used for pasture and grazing for a number of years and has been assessed as being in a degraded condition (Landform Research 2005).

The Biodiversity Coordination Section (2006) advise that it appears unlikely that the notified area comprises a higher level of biological diversity than surrounding vegetation, given that the area has very little understorey and has been exposed to grazing. Therefore, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:

- Landform Research (2005) (TRIM Ref. HD28383)
- Biodiversity Coordination Section (2006) (TRIM Ref. DOC10284)
- Site Inspection (2006) (TRIM Ref. DOC12203)

GIS database:
- Swan Coastal Plain North 40cm Orthomosaic - DLI 05

(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 vegetation proposed to be cleared comprises approximately 2.34 ha within several small vegetated areas of the central portion of a 302ha property. The property is mostly cleared pasture with localised patches of remnant vegetation (Thompson Partners 2005).

The Biodiversity Coordination Section (2006) advise that the vegetation under application is not likely to be considered significant habitat for the fauna due to the scattered nature of the vegetation and lack of tree hollows. Therefore, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:

- Biodiversity Coordination Section (2006) (TRIM Ref. DOC10284)
 - Site Inspection (2006) (TRIM Ref. DOC12203)
- GIS Databases:
- DEC SAC Bio Datasets, Date accessed 09/07/2007
 - Swan Coastal Plain North 40cm Orthomosaic - DLI 05

(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 four Declared Rare Flora (DRF) species recorded within a 5km radius of the vegetation under application, being;

- 3 populations of *Darwinia foetida*;
- 20 populations of *Grevillea curviloba* subs. *incurva*;
- 1 population of *Grevillea curviloba* subs. *curviloba*; and
- 1 population of *Thelymitra stellata*.

The closest DRF population is *Thelymitra stellata*, located approximately 1.9kms from the vegetation under application.

All of the above listed DRF occur within the same Beard vegetation associations as the vegetation under application. However, of these species *Darwinia foetida*, *Grevillea curviloba* subs. *incurva* and *Grevillea curviloba* subs. *curviloba* are known to occur within a different soil complex to the vegetation under application, being associated with sandy soils (Western Australian Herbarium 1998). Therefore, the vegetation under application is not considered likely to comprise these DRF species.

Thelymitra stellata is known to occur amongst low heath and scrub in Jarrah (*Eucalyptus marginata*) and Wandoo (*Eucalyptus wandoo*) woodland (Biodiversity Coordination Section 2006) on gravel and lateritic loam (Western Australian Herbarium 1998). Whilst this species is known to occur within the soil complexes and vegetation communities as the vegetation under application, the areas of vegetation have been grazed, with a limited understorey now present.

Given the vegetation condition and past and present disturbance the Biodiversity Coordination Section (2006) advise that it is unlikely that the proposed clearing of the vegetation under application will be at variance to this Principle.

Methodology References:

- Biodiversity Coordination Section (2006) (TRIM Ref. DOC10284)
 - Western Australian Herbarium (1998)
- GIS Databases:
- DEC SAC Bio Datasets, Date accessed 09/07/2007
 - Swan Coastal Plain North 40cm Orthomosaic - DLI 05
 - Pre-European Vegetation - DA 01/01
 - Soils, Statewide - DA 11/99

(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 two known occurrences of Threatened Ecological Communities (TECs) within a 5km radius of the vegetation under application, the closest being a community of shrublands and woodlands of *Muehea Limestone* located ~3.4km from the vegetation under application. An Organic Mound (*Tumulus*) Spring of the Swan Coastal Plain is also mapped within a 5km radius of the vegetation under application.

The Biodiversity Coordination Section (2006) also identified floristic communities SCP3c - 'Corymbia calophylla - Xanthorrhoea preissii woodlands and shrublands', SCP07 - 'Herb rich saline shrublands in clay pans' and SCP20b - 'Eastern Banksia attenuata and/or Eucalyptus marginata woodlands' (Gibson et al. 1994) within a 10km radius of the vegetation under application.

Given the vegetation description, the vegetation under application is not considered to comprise the whole, or part of, a TEC. Furthermore, given the distance to nearby mapped TEC, the vegetation under application is not considered to be necessary for the maintenance of a threatened ecological community. Therefore the proposed clearing is not likely to be at variance to this Principle.

- Methodology** **References:**
 - Gibson et al. (1994)
 - Biodiversity Coordination Section (2006) (TRIM Ref. DOC10284)
GIS Databases:
 - DEC SAC Bio Datasets, Date accessed 09/07/2007
 - Swan Coastal Plain North 40cm Orthomosaic - DLI 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 likely to be at variance to this Principle**
 The vegetation under application is a component of Beard Vegetation Associations 4 and 1020 (Hopkins et al. 2001) and Heddle: Reagan Complex and Mogumber Complex - South (Heddle et al. 1980) of which 23.3%, 30.5%, 38.0% and 39.9% of Pre European extent remain respectively (Shepherd et al. 2001).

The vegetation under application is also a component of Mattiske Reagan and Mogumber complexes (Mattiske Consulting 1998) of which 20.0% and 30.0% of Pre-European extent remain respectively (Havel et al. 2002).

CALM	Pre-European (ha)	Current extent (ha)	Remaining (%)	Conservation***% status	In reserves/ managed land
IBRA Bioregion Swan Coastal Plain*	1,529,235	657,450	43.0	Depleted	
Shire of Chittering*	123,502	48,828	39.5	Depleted	
Vegetation type:					
Beard: Unit 4**	1,054,316	245,361	23.3	Vulnerable	18.2
Beard: Unit 1020**	5,610	1,711	30.5	Depleted	5.6
Heddle:					
Reagan Complex	9,097	3,455	38.0	Depleted	1.9
Mogumber Complex - South	13,720	5,477	39.9	Depleted	1.1
Mattiske:					
Reagan Complex	23,285****	6,238****	20.0	Vulnerable	0.4
Mogumber Complex	115,406****	45,408****	30.0	Depleted	0.3

* (Shepherd et al. 2001)
 ** (Adapted from Shepherd et al. 2001)
 *** (Department of Natural Resources and Environment 2002)
 **** (Mattiske Consulting 1998)

Biodiversity Coordination Section (2006) advise that given the small area applied to be cleared (~150 trees), scattered nature and lack of native understorey within the vegetation under application and proximity to nearby well vegetated remnant areas, the vegetation under application is unlikely to be considered significant as a remnant in the local environment. Therefore the proposed clearing is not likely to be at variance to this Principle.

- Methodology** **References:**
 -Adapted from Shepherd et al. (2001)
 - Shepherd et al. (2001)
 - JANIS Forests Criteria (1997)
 - Hopkins et al. (2001)
 - Department of Natural Resources and Environment (2002)
 - Biodiversity Coordination Section (2006) (TRIM Ref. DOC10284)
 - Commonwealth of Australia (2001)
GIS Databases:

- Pre-European Vegetation - DA 01/01
- Hedde Vegetation Complexes - DEP 21/06/95
- Matiske Vegetation - CALM 24/03/98 - Interim Biogeographic Regionalisation of Australia - EA 18/10/00

(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 watercourses or wetlands mapped within the areas of vegetation under application. There are several wetlands and watercourses within a 5km radius of the vegetation under application, the closest wetland being a Resource Enhancement Wetland (REW) located ~600m from the vegetation under application.

There are also two minor, non-perennial watercourses on the property, located approximately 400m north (Wandena East Creek) and 800m south (Muchea East Creek) of the vegetation under application.

Given the distance to nearby wetlands and watercourses and the vegetation description, the vegetation under application is not considered to be growing in, or in association with, an environment associated with a watercourse or wetland. Therefore, the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Databases:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC
- Hydrology, linear - DOE 01/02/04

(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

DAFWA (2006) advise that given the small scale (approximately 150 trees) and sparse nature (isolated trees in a paddock) of the vegetation under application, the proposed clearing is unlikely to cause appreciable land degradation. Therefore, the proposed clearing is not likely to be at variance to this Principle.

Methodology - DAFWA (2006) (TRIM Ref. DOC6697)

(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 five nature reserves within a 10km radius of the vegetation under application, being Bullsbrook Nature Reserve (Class C), Baracca Nature Reserve (Class A), Chandala Nature Reserve (Class A) and two Un-named Nature Reserves (Class A, and Class C). The closest Nature Reserve is the Class C Un-named Nature Reserve, located approximately 3.8km south west of the vegetation under application.

Given that the area proposed to be cleared is relatively small, and sufficiently distanced from the conservation areas cited above, the proposed clearing is not likely to be at variance to this Principle.

Methodology Reference:

- Biodiversity Coordination Section (2006) (TRIM Ref. DOC10284)
- GIS Database:
- CALM Managed Lands and Waters, CALM 1/07/05

(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

Given the relatively small amount of vegetation proposed to be cleared (~2.34ha), vegetation description and distance to nearby waterbodies, the proposed clearing is not considered likely to cause deterioration in the quality of surface or underground water.

Methodology

(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

Given the relatively small area (~2.34ha), scattered and degraded nature of the vegetation under application and position of the area on a slope within the landscape, it is considered unlikely that the proposed clearing will result in an appreciable impact on the incidence and intensity of flooding. Therefore the proposed clearing is not likely to be at variance to this Principle.

- Methodology** Reference:
- DAFWA (2006) (TRIM Ref. DOC6697)
- GIS Databases:
- Hydrography, linear - DOE 01/02/04
 - Swan Coastal Plain North 40cm Orthomosaic - DLI 05
 - Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

Planning Approval with conditions has been issued for the proposed development of a Saleyard (TRIM Ref. DOC 403). A works approval granted under the Environmental Protection Act 1986 is required for the development of the Muchea Livestock Centre. An application for a works approval has been submitted to DEC and is being processed.

There is no other RIWI Act Licence or EP Act Licence that will affect the area of vegetation under application.

Methodology

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Grazing & Pasture	Mechanical Removal	2.34	The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986. The clearing as proposed is not likely to be at variance to all Principles.

5. References

Biodiversity Coordination Section (2006) Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia (TRIM Ref. DOC10284).

Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.

DAFWA (2006) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia (TRIM Ref. DOC6697).

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 (1998) Environmental Protection (South West Wetlands) Policy 1998.

Gibson et al. (1994). A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management.

Havel, J.J. and Mattiske Consulting Pty Ltd (2002) Review of management options for poorly represented vegetation complexes, Conservation Commission.

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.

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

Landform Research (2005) Vegetation Study Locations M1327 and M1499 Wandena Road, Muchea (TRIM Ref. HD28383).

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. (2006). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

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.

Site inspection (2006) (TRIM Ref. DOC12203).

Thompson Partners (2005) Background Information in Support of an Application for a Permit to Clear Native Vegetation at the Proposed Livestock Facility Lots 12 and 13 Muchea East Road and Lot 1327 Wandena Road Chittering. Prepared for Midland Project Management on behalf of the WA Meat Industry Authority (TRIM Ref. HD28222).

Western Australian Herbarium (1998). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.calm.wa.gov.au/> (Accessed 09/07/2007).

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)