



1. Application details

1.1. Permit application details

Permit application No.: 2366/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: John Holland Rail Division

1.3. Property details

Property: LOT 75 ON PLAN 3138 (OAKLEY 6208)
 Local Government Area: Shire Of Murray
 Colloquial name:

1.4. Application

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

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: 968- Medium woodland; jarrah, marri, wandoo.	The applied area of 0.73ha is located within Lot 75 (42.1ha) on Plan 3138. The purpose for the clearing is for sleeper loading and storage for railway upgrade.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the native vegetation under application was sourced from the Site Inspection (2008). The vegetation was considered to be in overall degraded condition with some areas being completely degraded.
Hedde complex: Guildford Complex: 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-polei). Minor components include E. rudis - M. rhapsiphylla.	The area under application is very open, consisting predominantly of Eucalyptus marginata, with several specimens of E. rudis occurring in a small depression. There is no distinct middle storey present. The ground was dominated by aggressive non-native grass species with scattered Dryandra nivea, Xanthorrhoea preisii, Acacia saligna, Macrozamia sp, and Jacksonia sp.		

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 under application is in degraded condition consisting of very open woodland, predominantly of Eucalyptus marginata, with several specimens of E. rudis occurring in a small depression.

The vegetation under application is not considered likely to provide significant habitat for fauna species due to its small size and degraded condition.

The high level of disturbance and weed invasion within the applied area suggests that the original level of biodiversity has been impacted. The applied area therefore may not be self sustaining into the future and does not contain a high level of biodiversity. Thus, the proposed clearing is not considered likely to be at variance to

this Principle.

Methodology Reference
- Site Inspection (2008)

(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**
There are four records of three fauna species of conservation significance within the local area (5km radius) including:
- Chuditch (*Dasyurus geoffroii*) with the nearest record being 2.9km north west.
- Peregrin falcon (*Falco peregrinus*) with the nearest record being 2.9km north west.
- Shield-backed trapdoor spider with the nearest record being (*Idiosoma nigrum*) 2.9km north west.

The area under application is very open, consisting predominantly of *Eucalyptus marginata*, with several specimens of *E. rudis* occurring in a small depression. There is no distinct middle storey present. The ground was dominated by aggressive non-native grass species with scattered *Dryandra nivea*, *Xanthorrhoea preisii*, *Acacia saligna*, *Macrozamia* sp, and *Jacksonia* sp.

The vegetation under application is located within a wetland and on occasion may be inundated with water. Therefore, it is unlikely to provide suitable habitat for the shield-backed trapdoor spider as they predominantly occur in dry woodlands (DEC 2008).

The vegetation under application is also very open with limited understorey and is unlikely to provide suitable habitat for the chuditch as they require dense shrub or bush in order to provide cover (DEC 2008). They are also no mature trees in that applied area with suitable hollows for Carnaby's black cockatoos (site inspection 2008).

Given the degraded condition of the vegetation and the small size of the applied area it is not considered likely to comprise the whole or part of, or is necessary for the maintenance of, significant habitat for fauna indigenous to Western Australia.

Methodology References:
- Site Inspection (2008)
GIS Databases:
- SAC Biodata sets 16/01/2008

(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**
The closest record of a Declared Rare Flora (DRF) is *Synaphea stenoloba*, located 330m south east of the applied area. *Synaphea stenoloba* is a caespitose shrub with yellow flowers that are in bloom from August to October (West Australian Herbarium 2008).

S. stenoloba occurs in the same mapped vegetation and soil as the area under application. However, the degraded, sparse understorey enabled DEC officers to conduct a detailed search for *S. stenoloba*. Although, outside of the flowering time *S. stenoloba* is still identifiable, but it was not recorded during the site inspection. Therefore, it is not considered likely that the vegetation under application includes, or is necessary for the continued existence of rare flora.

Methodology Reference:
- Site Inspection (2008)
- West Australian Herbarium (2008)
GIS Database:
- SAC Biodatasets 13/3/08
- 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 no known Threatened Ecological Communities (TEC) within the local area (2km radius). The closest TEC is identified as Species Community Type 09- Dense shrublands on clay flats, located approximately 5km north east of the applied area.

Given the site inspection (2008) identified the applied area as open woodland and in degraded condition, it is not considered likely that the vegetation under application comprises the whole or part of, or is necessary for the maintenance of a TEC.

Methodology Reference:
 - Site Inspection (2008)
 GIS Database:
 - SAC Bio Datasets 130308

(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 within the area under application is identified as a component of Beard vegetation association 968 and Heddle vegetation complex- Guildford complex, which have 32.7 and 5.0% respectively (Shepherd 2006, EPA 2006) of pre-European extent remaining.

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Commonwealth of Australia 2001). The Beard vegetation association is above the recommended minimum. However, the Heddle vegetation complex in the area under application is well below recommended minimum of 30% representation.

Although the Heddle vegetation complex is below the recommended 30% minimum the vegetation under application is in degraded to completely degraded condition and is not likely to a representative of this vegetation complex and is not likely to be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregions				
Swan Coastal Plain*	1,501,456	571, 758	38.1	
Shire of Murray**	181,526	98,552	54.3	
Beard Vegetation type:*				
968	296,889	97,181	32.7	33.5
Heddle Vegetation complex***				
Guildford complex	92,497	4,662	5.0	0.2
Shepherd (2006)*				
Shepherd (2001)**				
EPA (2006)***				

Methodology References:
 - Commonwealth of Australia (2001)
 - EPA (2006)
 - Shepherd (2006)
 - Shepherd (2001)
 GIS Databases:
 - Heddle Vegetation Complexes DEP 21/06/95
 - Interim Biogeographic Regions of Australia EA 18/10/00
 - SAC Bio Datasets 14/03/08

(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 area under application is located approximately 310m from a major tributary of the Murray River, and although not associated with any wetlands of a high conservation value; the area under application is part of a large palusplain Multiple Use Wetland.

A site inspection (2008) identified Eucalyptus rudis growing in a small depression within the area under application. E rudis is known to occur in the wetter parts of the south west (West Australian Herbarium 2008) and is recognised as wetland dependant vegetation.

Given E. rudis occurs in the applied area and the area is mapped as a Multiple Use Wetland, the vegetation under application is considered to be growing in, or association with a watercourse or wetland.

Methodology References:
 - Site Inspection (2008)

- West Australian Herbarium (2008)
- GIS Databases:
 - Geomorphic wetlands (Mgt Categories)- Swan Coastal Plain DEC
 - Hydrography, hierachy - 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

The vegetation under application is located directly adjacent to a railway, in an area that has been extensively cleared. The soils within the area under application are Bassendean sands, which have a high risk of phosphorus export, but low risks of water and wind erosion, waterlogging and salinity (State of Western Australia 2005).

Based on the limited area (0.73ha) and the degraded condition of the vegetation under application, the proposed clearing is not considered likely to cause appreciable land degradation in the form of water or wind erosion, salinity or phosphorus export.

- Methodology Reference:**
- State of Western Australia (2005)
 - GIS Database
 - Salinity Risk LM 25m - DOLA 00

(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 no Bush Forever sites or DEC managed lands within the local area (2km radius). The closest DEC managed area is classed as a timber reserve which is located approximately 2.8km north east of the applied area.

Given no Bush Forever sites or DEC managed lands occur within the local area and distance to the nearest conservation reserve, the proposed clearing of the vegetation is not considered likely to have an impact on the environmental values of any adjacent or nearby conservation area.

- Methodology GIS databases:**
- Bushforever - MFP 07/01
 - DEC Managed Lands and Waters - CALM 1/07/05
 - System 6 Conservation Reserves - DEP 06/95

(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 under application is not located within a prescribed groundwater area or a Public Drinking Water Source Area and is part of a large palusplain Multiple Use Wetland. The nearest watercourse is located approximately 310m to the south of the area under application.

The soils within the area under application are Bassendean sands, which have low risks of water erosion due to high infiltration rates of the sand (State of Western Australia 2005). The flat topography of the land will also lower the risk of water erosion. Therefore, water erosion not likely to cause deterioration in surface water quality through water erosion.

The Bassendean sands also have low risks of salinity. Therefore, salinity is not likely to cause deterioration in ground water quality as a result of the proposed clearing.

Based on the limited area (0.73ha) and the degraded condition of the vegetation under application, the proposed clearing is not considered likely to cause deterioration in the quality of surface water or groundwater.

- Methodology GIS Databases:**
- Hydrography, linear (hierarchy) - DOE 13/4/05
 - RIWI Act, Groundwater Areas - WRC 13/06/00
 - Public Drinking Water Source Areas (PDWSA's) - DOE 09/08/05
 - Topographic Contours, Statewide- DOLA 12/09/02

(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 area under application is located approximately 310m from major tributary of the Murray River, although not

associated with any wetlands of a high conservation value; the area under application is part of a large palusplain Multiple Use Wetland (MUW).

Due to the small size of the applied area and the degraded condition of the vegetation it is not considered likely that the removal of vegetation would cause, or exacerbate, the incidence of flooding.

Methodology GIS Databases:
- Hydrography, linear - DOE 1/2/04
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DOE 15/9/04

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

Comments

John Holland (2008) informed the DEC why the clearing needs to occur at the proposed site. When considering the location of depots between Pinjarra and Brunswick only two locations can be considered to be practical and these two sites are at Brunswick south and the applied area. No alternatives with established railway access exist between these two points without incurring significant development costs. This has been noted.

No other approval required by the Department of Environment and Conservation.

The applied area occurs within the Aboriginal Site of Significance- Battle of Pinjarra. This has been noted and advice will be given to the proponent in the covering letter.

The applied area is zoned under railway and is freehold land owned by the Public Transport Authority.

Methodology GIS Databases:
- Aboriginal Sites of Significance- DIA 20/03/03
- Submission (2008)
- Town Planning Scheme Zones- MFP 08/98

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Stockpile	Mechanical Removal	0.73	The assessable criteria have been addressed and the clearing as proposed is considered to be at variance to Principle (f), but not considered likely to be at variance to the remaining Principles.

5. References

- Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
- DEC (2008) Trapdoor Spider habitat preferences. Advice to Swan Region Native Vegetation Protection Officer. Received from Avon Mortlock-Yilgarn Regional Office, Nature Conservation Branch, Department of Environment and Conservation, Western Australia. Received 20/03/2008. (TRIM Ref. DOC48715).
- EPA (2006) 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.
- John Holland (2008) Direct interest submission received 18/03/2008, TRIM Ref DOC 48603.
- 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. (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.
- 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 (2008) Site Inspection Report, Department of Environment and Conservation (DEC), Western Australia, TRIM Ref DOC48537.
- State of Western Australia (2005) AgMaps Land Manager CD Rom
- Western Australian Herbarium (1998-). FloraBase The Western Australian Flora. Department of Environment and Conservation. <http://florabase.calm.wa.gov.au/> (Accessed 10/03 /2008).

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)