



1. Application details

1.1. Permit application details

Permit application No.: 758/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Co-operative Bulk Handling Limited

1.3. Property details

Property: LOT 437 ON PLAN 221362 (WYALKATCHEM 6485)

Local Government Area: Shire Of Wyalkatchem

Colloquial name: WYALKATCHEM Lindsay Street - Lot 437, Vol 2218 Fol 607

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.9		Mechanical Removal	Building or Structure

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 1049: Medium woodland; wandoo, York gum, salmon gum, morrel and gimlet (Hopkins et al. 2001; Shepherd et al. 2001).	The area under application is located on the outskirts of Wyalkatchem townsite, within CBH owned land (Lot 437). The vegetation within the area under application comprises part of Beard vegetation association 1049. Two distinct vegetation units occur within the area under application. The majority of the area under application comprises open mallee woodland with a patchy middlestorey of acacia species and other shrubs and a sparse understorey of native grasses and annuals. The second vegetation unit comprises thick scrubland dominated by casuarina and acacia species (Site visit 2005).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	A site inspection undertaken by DOE staff on 06/12/05 found the vegetation within the area under application to be predominantly of good condition, comprised of Mallee woodland over Melaleuca spp. with Sheoaks and shrublands, and some encroachment of non-indigenous grasses and rubbish dumping.

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**

As part of the site visit (2005) three areas of remnant bush in the local area were inspected. These areas were a reserve within the Wyalkatchem townsite approximately 600m from the area under application, a reserve within the Korrellocking townsite approximately 9km east and Dingo Wells Nature Reserve approximately 11km to the southwest (Site visit 2005).

The native vegetation in three reserves is similar in type and condition to that within the area under application. It is therefore unlikely that the area under application comprises a higher level of biological diversity than other native vegetation within the local area.

Methodology Site visit 06/12/05 (DoE TRIM Ref ND794)

(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

The vegetation within the area under application is considered to be predominantly in good to very good condition with about one-fifth of the site being degraded (DAWA advice 2005). The vegetation within the area under application is contiguous with remnant vegetation to the north and across the railway line to the east, with connectivity via transport corridors to other areas of remnant vegetation in the area. Aerial photography and photographs (DAWA advice 2005) indicate that vegetation coverage within the area under application is densest on the norther part of the site, with degraded areas primarily along disturbed edges and tracks. A site inspection undertaken by DOE staff on 06/12/05 found the vegetation within the area under application to be predominantly of good condition, comprised of Mallee woodland over *Melaleuca* spp. with Sheoaks and shrublands, and some encroachment of non-indigenous grasses and rubbish dumping.

There are over 30 known occurrences of Threatened and Priority fauna within a 50 kilometre radius of the area under application, approximately two-thirds of these being Threatened species.

The nearest known occurrences of Threatened fauna to the area under application are Shield-backed Trapdoor Spider (*Idiosoma nigrum*) from approximately 2 kilometres southwest, and Tree-stem Trapdoor Spider (*Aganippe castellum*) from Reserve #26260 approximately 7.2 kilometres southeast. Both of these species have small home ranges, and are burrowing spiders that are generally found in undisturbed mallee habitats. The nearest known occurrences of Priority fauna is White-browed Babbler (*Pomatostomus superciliosus* ashbyi, Priority 4) from approximately 2.6 kilometres northeast of the area under application. This species inhabits eucalypt woodlands. It is possible that all of these species utilise the good-condition mallee habitat within the area under application.

The vegetation within the area under application may be suitable as habitat for Threatened or Priority species that have not been previously recorded at this location. The vegetation is likely to be important habitat for numerous non-threatened fauna in a highly fragmented landscape. On this basis it may be considered significant habitat for indigenous fauna, and therefore this proposal may be at variance to this principle.

Methodology Site visit 06/12/05 (DoE TRIM Ref ND794)
DAWA land degradation advice 30/09/2005 (DoE TRIM Ref IN24513)
GIS dataset
- Dowerin 1.4m Orthomosaic DLI 2002
SAC Bio dataset
- Fauna 29/03/07

(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

There are over 150 known occurrences of Declared Rare and Priority Flora within a 50 kilometre radius of the area under application, approximately half of these comprising Declared Rare Flora. Many of these records are likely to occur within similar vegetation associations and on similar soil / geomorphology types as those found within the area under application.

The nearest known occurrences of Declared Rare Flora to the area under application are *Acacia caesariata* (WAHerb record), approximately 17.7 kilometres east, *Conostylis wonganensis* (Wongan *Conostylis*, DeFI record) approximately 18.5 kilometres west, and *Pityrodia scabra* (DeFI record) approximately 18.6 kilometres northeast. All grow in association with clay (and sandy / loamy) soils, in particular the record of *Conostylis wonganensis* occurs within the same broad soil type (DAWA 2002) as the area under application.

A site inspection undertaken by DOE staff on 06/12/05 found the vegetation within the area under application to be predominantly of good condition, comprised of Mallee woodland over *Melaleuca* spp. with Sheoaks and shrublands, and some encroachment of non-indigenous grasses and rubbish dumping. Given the condition of the vegetation and that it is previously unsurveyed for its species composition, there is a possibility that Declared Rare and Priority flora may exist there. Thus this proposal may be at variance to this principle.

Methodology Site visit 06/12/05 (DoE TRIM Ref ND794)
GIS dataset
- Soils Statewide DAWA 1999
- Pre-European Vegetation DA 2001
- Dowerin 1.4m Orthomosaic DLI
SAC Bio dataset
- DeFI 17/04/07
FloraBase

(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 records of Threatened Ecological Communities (TECs) within close proximity of the area under application. The nearest TECs are located approximately 35km west, within the same broad vegetation type as the area under application, and approximately 31km and 35km west-southwest, in a different broad vegetation type.

Methodology GIS Databases:

- Threatened Ecological Community Database - CALM 12/04/05
- Environmentally Sensitive Areas - DOE 08/03/05

(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 at variance to this Principle

There is one Beard vegetation association represented within the area under application (type 1049). This has less than 4% of its pre-European extent remaining, and less than 0.5% of its original extent protected in DEC-managed reserves.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	Conservation status **	Pre-European % in reserve/DEC
land					
IBRA Bioregions: #					
- Avon Wheatbelt (whole)	9 578 995	1 536 296	16.0	Vulnerable	
- Avon Wheatbelt (ILZ only)	8 967 527	924 828	10.3	Vulnerable	
Shire of Wyalkatchem #	158 004	7 814	4.9	Endangered	
Beard vegetation assoc: *					
- type 1049	833 403	30 079	3.6	Endangered	0.4

statistics from Shepherd et al 2002 (Technical Report 249)

* statistics from AGWA 2005 (Shepherd et al)

** Department of Natural Resources and Environment 2002

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

The area under application is located within the Intensive Land-use Zone as mapped in EPA Position Statement No. 2 (EPA 2000). Significant clearing of native vegetation has already occurred in this area and any further reduction through clearing is not supported.

Due to extensive clearing and under-representation in the conservation estate, any remnants of Beard vegetation association type 1049 are extremely important for biodiversity conservation and a priority for reservation. Aerial photography indicates that Lot 437 forms part of a contiguous area of remnant vegetation surrounding the townsite of Wyalkatchem, and the clearing of this section is likely to have a detrimental effect on the connectivity of the remaining remnant vegetation.

As the vegetation association within the area under application has just 3.6% of its original extent remaining and is not well-represented within secure tenure, the proposal is at variance to this Principle.

Methodology

- Shepherd et al. (2001)
- Hopkins et al. (2001)
- Department of Natural Resources and Environment (2002)
- Beard 1980
- DAWA 2002
- DAWA 2005
- EPA Position Statement No. 2
- GIS dataset
- Pre-European Vegetation - DA 01/01
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- EPA Position Paper No 2 Agriculture Region - DEP 12/00

(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 at variance to this Principle

There are no wetlands or watercourses within the area under application and as such, the vegetation under application is not considered to be wetland dependent. Therefore this proposal is not at variance to this Principle.

Methodology GIS Databases:
- Hydrography, 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

The proposed clearing of 6.4 ha is unlikely to significantly increase recharge due to the small area involved and the area will be bituminised or compacted post. Therefore it is unlikely that the proposed clearing will affect salinity or cause appreciable land degradation (DAWA 2005).

The area under application is positioned on the upper slope in the divide of a fairly flat catchment. Given this position in the landscape and the fact that the proposed clearing activity is unlikely to increase recharge, there is little risk of waterlogging problems on-site or off-site. The area will be managed by the proponent therefore it is unlikely that there will be a significant soil erosion risk (DAWA 2005).

Methodology DAWA land degradation advice 30/09/2005 (DoE TRIM Ref IN24513)

(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

Only 4.9% (7,814 ha) of native vegetation remains in the Shire of Wyalkatchem, therefore the area under application is located within a highly cleared landscape (Shepherd et al 2001, Hopkins et al 2001). There are a number of CALM reserves located within the local area. Wyalkatchem Nature Reserve is located approximately 2km northeast of the area under application, an unnamed nature reserve 4.5km to the northwest, Korrellocking Nature Reserve 5.5km to the east and Dingo Well Nature Reserve 11km to the southwest. The benchmark of 15% representation in conservation reserves (JANIS Forests Criteria 1997) has not been met for Beard Vegetation Associations 1049 with 12% of the current extent in secure tenure (Shepherd et al. 2001, Hopkins et al. 2001).

The remnant native vegetation within the area under application and the surrounding area is likely to act as a stepping stone for ecological connectivity. However, given the vegetation within the area under application is well represented in both type and condition in reserves in the local area (Site visit 2005) and the small scale of the proposed clearing, the clearing of the vegetation is unlikely to have a significant impact on the value of the remnant as a stepping stone.

Methodology Site visit 06/12/05 (DoE TRIM Ref ND794)
Hopkins et al. (2001)
JANIS Forests Criteria (1997)
Shepherd et al. (2001)
GIS databases:
- CALM Managed Lands and Water - 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

Given that the area under application is located high in the landscape there is unlikely to be significant surface flow emanating from the land subject to this proposal (DAWA 2005), except in major rainfall events. With an average annual rainfall of 350mm and an annual evaporation rate of 2,400mm there is little surface flow during normal seasonal rains. It is only during major rainfall events that there is any significant surface flow and the flow during these events would tend to be relatively fresh. The Mortlock Catchment of the Avon River Basin becomes a medium for the collection and transportation of major flows.

With high annual evaporation rates and low annual rainfall there is little recharge into regional groundwater that is considered to be saline at this site (between 7,000 mg/L and 14,000 mg/L). The proposed clearing of native vegetation for this proposal is unlikely to have an impact on regional groundwater considering the relatively small size of the proposal and the magnitude of the Yilgarn-Southwest Groundwater Province (~24,600 sq km).

Methodology DAWA land degradation advice 30/09/2005 (DoE TRIM Ref IN24513)
GIS Databases:

- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Groundwater Salinity, Statewide - 22/02/00
- Hydrography, linear - DOE 01/02/04
- Groundwater Provinces - WRC 98
- Hydrographic Catchments, Basins - DOE 23/03/05
- 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 on the upper slope in the divide of a fairly flat catchment (DAWA 2005) and there is unlikely to be significant surface runoff from the site except in major rainfall events. With an average annual rainfall of 350mm and an annual evaporation rate of 2,400mm there is little surface flow during normal seasonal rains. It is only during major rainfall events that there is a likelihood of flooding for which the broad valleys and lake systems of the region are designed to compensate and sustain floodwaters.

Methodology DAWA land degradation advice 30/09/2005 (DoE TRIM Ref IN24513)

- GIS Databases:
- Evaporation Isopleths - BOM 09/98
 - Isohyets - BOM 09/98
 - Hydrography, linear - DOE 01/02/04
 - Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The Shire of Wyalkatchem (2005) supports the application provided that a 30m buffer zone of native vegetation is retained along Lindsay Street to screen residents from the proposed development.

Methodology There is no other RIWI Act Licence, Works Approval or EP Act Licence that affects the area under application. Shire of Wyalkatchem (2005) (DoE TRIM Ref NI1228)

- GIS databases:
- RIWI Act, Groundwater Areas - WRC 13/06/00
 - RIWI Act, Surface Water Areas - WRC18/10/02

4. Assessor's comments

Purpose	Method Applied	Comment
Building or Structure	Mechanical Removal	area (ha)/ trees 3.9

5. References

CALM (2006) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE), Department of Conservation and Land Management, Western Australia. DoE TRIM Ref XXXXX.

DAWA (2005) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM Ref IN24513.

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.

Gole, K. and Brooks, T. (06/12/05) DOE site visit to CBH, Wyalkatchem CPS 758/1. Report to the Department of Environment.

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.

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)