



1. Application details

1.1. Permit application details

Permit application No.: 966/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Co-operative Bulk Handling Limited

1.3. Property details

Property: LOT 188 ON PLAN 190740 (Lot No. 188 KUKERIN KUKERIN 6352)

Local Government Area: Shire Of Dumbleyung

Colloquial name: KUKERIN 188 KUKERIN RD

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5.1		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: Unit 1075 - Shrublands; mallee scrub, Eucalyptus eremophila & black marlock (E. redunca)	3.7 hectares of vegetation in Excellent condition. Some areas are Degraded. There was a high amount of under storey coming through.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Vegetation condition established through site visit.

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 proposed clearing involves the removal of approximately 5.1 hectares of native vegetation on Lot 188 on Plan 190740 to enable the expansion of the existing grain handling and storage facility. The original application stated 4.5-5.5 hectares, which was amended and advertised as 3.7 hectares following GIS mapping on 05/12/05, and was later amended to 4.95 hectares on 26/06/06. Subsequent GIS mapping on 23/01/07 indicated that the area already cleared on this land is approximately 2.5 hectares, thus the area of the land that is currently uncleared is approximately 5.1 hectares.

A site inspection of the area under application was undertaken by regional officers on 10/05/06 to determine vegetation composition and condition, and the vegetation was found to be of predominantly excellent condition with a diverse range of native flora species present, and some areas of degraded vegetation.

There is one Beard vegetation association represented within the area under application. This has less than 12% of its pre-European extent remaining, and less than 6% of its original extent protected in DEC-managed reserves. In 2001 the Shire of Dumbleyung had approximately 9.5% of its original vegetation extent remaining (DAWA 2001).

Aerial photography indicates that the vegetation present within the area under application has connectivity with other areas of remnant vegetation, and is part of a contiguous remnant in excellent condition.

Given that the vegetation association present within the area under application is extensively cleared and under-represented in the conservation estate, this proposal is considered to be at variance to this principle.

To mitigate loss of biodiversity within the road reserves, a condition has been imposed on the permit to offset the values of the areas to be cleared.

Methodology Site visit 10/05/06
DAWA 2001

Beard 1980
Environment Australia 2001
GIS dataset
- Pre-European Vegetation DA 2001
- Interim Biogeographic Regionalisation of Australia 2000
- Dumbleyung Kokerin 1.4m Orthomosaic GA

(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 predominantly in excellent condition, contiguous with remnant vegetation of similar condition and composition to the east and with connectivity via road reserves to other areas of remnant vegetation in the area.

There are over 150 recorded occurrences of Threatened and Priority fauna within a 50 kilometre radius of the area under application, approximately half being Threatened species.

A record of Tammar Wallaby (*Macropus eugenii derbianus*, Priority 5) is located approximately 700 metres north of the area under application. This species occurs in thickets of Melaleuca, Sheoak and other large shrubs associated with grassland, and is likely to occur within the area under application. It is recognised that this species would utilise the vegetation within the area under application, however given that a Tammar Wallaby may have a home range of around 30 hectares, and given the existence of adjacent bushland of similar condition and composition, it is not expected that this species would depend entirely on the vegetation within the area under application as its primary habitat.

Other nearby records of Threatened and Priority fauna include Malleefowl (*Leipoa ocellata*, Threatened), Red-tailed Phascogale (*Phascogale calura*, Threatened), Western Rosella (*Platycercus icterotis xanthogenys*, Threatened), Western Brush Wallaby (*Macropus irma*, Priority 4), Western Whip Bird (Priority 4), Tammar Wallaby (*Macropus eugenii derbianus*, Priority 5) which all occur approximately 10 } 11.5 kilometres from the area under application within (or on land adjacent to) Tarin Rock Nature Reserve.

A report was prepared by Greg Harewood in February 2007 on behalf of the proponent following a survey of the area under application. The report identified usage of the area under application by 27 indigenous fauna (1 reptile, 25 birds, 1 mammal). The reptile species and some of the smaller bird species have small home ranges, and the populations within the area under application will be detrimentally impacted on by the proposed clearing. However these species are likely to be widespread in the local area where similar habitat exists, and their survival as a species is not likely to be significantly affected by the proposed clearing.

The Harewood report identified two species of Threatened fauna and two species of Priority fauna to have been recorded within a 10 kilometre radius of the area under application. White-tailed Black-Cockatoo and Red-tailed Phascogale may utilise the vegetation within area under application, but given the vegetation present (mallee woodland) it is unlikely that either species depends on this habitat for their survival. Western Bush Wallaby (Priority 4) and Tammar Wallaby (Priority 5) occur in areas with dense shrubland, and may occur within the area under application.

The Harewood report found that within the area under application there were several small specimens of Eucalypts (within a mallee habit) that are relatively small in size and do not show signs of hollow development. Furthermore, the report indicates that no tree hollows suitable for Carnaby's Black Cockatoo or Western Rosellas are present within the area under application, thus it is unlikely that either of these species depends on the vegetation within the area under application as its primary habitat. However it is likely that in the long-term these trees, if left uncleared, will mature and bear hollows suitable for use by these and other species. In its current state, the vegetation does not provide habitat (other than for foraging) for these species.

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 (or recorded during this survey). The vegetation within the area under application is likely to provide habitat for other fauna species not observed during the Harewood survey. If approved, the proposed clearing will reduce the fauna habitat available.

The vegetation within the area under application is of a similar composition as a larger remnant of vegetation adjacent to the east, thus the impacts of this proposed clearing on local fauna will be reduced to some degree by the availability of similar habitat within close proximity. It is likely however that the adjacent bushland has reached equilibrium in terms of ecosystem function and that the proposed clearing will disrupt this balance by causing refugees to compete for resources.

Given the above, this proposal may be at variance to this principle.

Methodology Site visit 10/05/2006
Harewood report 02/07
GIS dataset

- Dumbleyung Kukerin 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 recorded occurrences of Declared Rare and Priority Flora within a 50 kilometre radius of the area under application, approximately a third of these comprising Declared Rare Flora. Many of these records occur within the same vegetation associations and on similar soil / geomorphology types as those found within the area under application.

The nearest occurrence of Declared Rare Flora is *Acacia depressa* (Echidna Wattle), located approximately 4.1 kilometres from the area under application. This species occurs on lateritic gravelly soils associated with low hills and rises. Given the proximity of the record and the different soil and landscape type within the area under application, it is unlikely that this species occurs within the area proposed to be cleared.

Records of Priority flora *Lasiopetalum fitzgibbonii* (Priority 3), *Dryandra fasciculata* (Priority 3), *Grevillea newbeyi* (Priority 3) and *Dryandra meganotia* (Priority 3) occur within an area of privately-owned remnant vegetation located approximately 3 kilometres southeast of the area under application, on the southern side of Siberia Road. These species are associated with sand, clay loam and gravelly soils, some of the soils and habitats being consistent with those found within the area under application.

Given the vegetation within the area to be cleared is considered to be of excellent condition and 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** GIS dataset
 - Soils Statewide DAWA 1999
 SAC Bio dataset
 - DeFI 17/04/07
 FloraBase
 RCC report 2005

(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 occurrences of Threatened Ecological Communities within a 50 kilometre radius of the area under application. The proposed clearing is not likely to impact on Threatened Ecological Communities.

- Methodology** SAC Bio dataset
 - TEC 05/01/07

(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

There is one Beard vegetation association represented within the area under application. This has less than 12% of its pre-European extent remaining, and less than 6% 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: #					
- Mallee	7 404 398	4 081 089	55.1	Least Concern	
Shire of Dumbleyung #	253 816	24 003	9.5	Endangered	
Beard vegetation assoc: *					
- type 1075	527 028	62 579	11.9	Vulnerable	5.4

statistics from Shepherd et al 2001 (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). As the vegetation association within the area under application has less than 6% of its original extent remaining, the proposed clearing is at variance to this Principle.

To mitigate any potential impacts of the clearing on remnant vegetation, while acknowledging the need to maintain and upgrade roads, the proposed clearing will be carried out in accordance with a condition imposed on the permit requiring that clearing of vegetation be avoided, and where this is not possible, minimised. In addition, a condition has been imposed to offset the values of the area to be cleared to address the loss of vegetation within a highly cleared landscape.

Methodology Department of Natural Resources and Environment (2002) / EPA (2000)
Beard 1980
DAWA 2001
DAWA 2005
EPA Position Statement No. 2
Environment Australia 2001
GIS dataset
- Pre-European Vegetation DA 2001
- Interim Biogeographic Regionalisation of Australia EM 2000

(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

A minor non-perennial watercourse is located approximately 30 metres northeast of the area proposed to be cleared. Intact remnant vegetation occurs between this watercourse and the area proposed to be cleared, which would help to prevent siltation and other impacts that clearing may have on adjacent waterways.

There are no Ramsar wetlands within a 50 kilometre radius of the area under application. The nearest ANCA wetland is the Lake Grace system located approximately 22.7 kilometres from the area under application.

Given the above, it is unlikely that the proposed clearing will impact on watercourses or wetlands.

Methodology GIS databases:
- ANCA, Wetlands - CALM 08/01
- EPP Areas - DEP 06/95
- EPP Lakes - DEP 28/07/03
- Geomorphic Wetlands (Mgt Categories) Swan Coastal Plain - DoE 15/9/04
- Geomorphic Wetlands, Augusta to Walpole - DoE 18/6/03
- Hydrography Linear - DoE 1/2/04
- RAMSAR, Wetlands - CALM 21/10/02
- Dumbleyung Kukerin 1.4m Orthomosaic - DLI 02

(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

Salinity mapping and salinity risk indicate that the valley floor is saline and at risk of spreading. The area under application has a low salinity risk with a groundwater salinity level of 14000-35000 mg/L.

The soil and geomorphology of the area under application is described as broad flat valleys with small clay pans and salt-lake remnants in some localities with hard alkaline yellow soils underlain by acid lateritic clays. The soils present within the area under application have predominantly a low to medium potential for water and wind erosion (DAWA 2002).

In the short-term the proposed clearing may have an impact on localised flooding and soil erosion during works, and structures should be installed to minimise / mitigate these impacts. It is unlikely that in the long-term the proposed clearing will result in increased wind or water erosion, waterlogging or salinity.

The Department of Agriculture describes the soil within the area under application as alkaline grey shallow sandy and loamy duplex soils, grey deep and shallow sandy duplex and duplex sandy gravels. The Department of Agriculture advises that the proposed clearing of 3.7 hectares (note that this is not reflective of the full extent of clearing proposed) of land within Lot 188 on Plan 190740 is unlikely to cause appreciable land degradation. This proposal is not likely to be at variance to this principle.

Methodology DAWA 2001

DAWA advice 24/01/06
Schoknecht 2002
GIS dataset
- Salinity Mapping LM (25m) DOLA 2000
- Salinity Risk LM (25m) DOLA 2000
- Groundwater Salinity, Statewide DOE
- Topographic Contours Statewide DOLA 2002

(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 more than 50 DEC-managed land parcels within a 50 kilometre radius of the area under application. The nearest of these is an un-named nature reserve #43286 located approximately 4.5 kilometres southwest of the area under application, and Tarin Rock Nature Reserve located approximately 7.7 kilometres from the area under application. Both of these reserves are located higher in the landscape (360-390m ASL) than the area under application (320m ASL), and given the distance from the area under application it is unlikely that the proposed clearing will impact on these conservation areas.

Aerial photography indicates that the vegetation occurring on road reserves provides corridor linkage between conservation reserves, particularly where vegetation is of good condition. There is connectivity between the area under application and the two nearest reserves by way of roadside vegetation and areas of remnant vegetation. The proposed clearing will have some impact on this connectivity by further fragmenting the remnant vegetation remaining in the area.

In relation to the proposed clearing having an impact on adjacent or nearby conservation reserves, it is unlikely that this proposal is at variance to this principle.

Methodology GIS dataset

- CALM Managed Lands and Waters CALM 2005
- Register of National Estate EA 2003
- Clearing Regulations - Environmentally Sensitive Areas DOE 2005
- Dumbleyung Kukerin 1.4m Orthomosaic DLI 2002
- Pre-European Vegetation DA 2001

(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 located on the edge of Kukerin townsite, adjacent to previously-cleared land and adjacent to intact bushland. This proposal will involve clearing to enable expansion of the existing grain handling facility. The proposed clearing may increase the amount of surface water runoff during construction.

It is unlikely that the clearing of 4.5 hectares will have a significant (long term) impact on the quality of the surface flow or groundwater. Thus it is unlikely that this proposal is at variance to this principle.

Methodology GIS dataset

- Salinity Mapping LM (25m) DOLA 2000
- Salinity Risk LM (25m) DOLA 2000
- Topographic Contours Statewide (DOLA 2002)

(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 subject to moderately low rainfall (approximately 350 - 400mm/annum) and matching evaporation rate (approximately 400mm/annum).

It is unlikely that the proposed clearing of 4.5 hectares will result in increased duration or peak flooding, thus it is unlikely that this proposal is at variance to this principle.

Methodology GIS dataset

- Evapotranspiration Area Actual BOM 2001
- Mean Annual Rainfall Isohyets BOM 2001
- Topographic Contours Statewide DOLA 2002

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

Comments

The area proposed to be cleared has a un-known zoning in the Town Planning Scheme.

The Shire of Dumbleyung advise that Council have no objection to the proposed clearing for expansion of an existing grain handling facility.

The Dumbleyung Landcare Zone advise they have no objections to the proposed clearing.

The area under application occurs within the 'Agricultural Area' defined in EPA Position Statement No. 2. This document aims to limit the amount of clearing in an extensively cleared landscape, and defines threshold limits for vegetation communities.

Methodology Shire of Dumbleyung Submission TRIM ref SWD45661
Dumbleyung Landcare Zone Submission TRIM red SWD45683
GIS database:
- Town Planning Scheme Zones - MFP 8/98

4. Assessor's comments

Purpose	Method Applied	Comment
Building or Structure	Mechanical Removal	area (ha)/ trees 5.1

5. References

- DEC (2006) Biodiversity advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR), received DATE. Biodiversity Coordination Section, Department of Environment and Conservation, Western Australia.
- 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.
- Harewood, G. (2007) FAUNA ASSESSMENT - LOT 188 KUKERIN - Incorporating Carnaby's Black Cockatoo & Western Rosella (Inland ssp) Nest Habitat Surveys. A report prepared for Cooperative Bulk Handling as supporting information for the assessment of clearing application CPS 966/1.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Schoknecht N. (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3
- 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.
- Tingay, K (2006) Field Inspection - 10/05/2006 Lot 188 Kukerin Road, Kukerin - Cooperative Bulk Handling. Unpublished report for the Department of Environment.

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)