



## 1. Application details

### 1.1. Permit application details

Permit application No.: 2257/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: DEC, Great Southern District, Wheatbelt Region

### 1.3. Property details

Property: ROE LOCATION 2310 ( HYDEN 6359)  
 ROAD RESERVE ( HYDEN 6359)  
 Local Government Area: Shire Of Kondinin  
 Colloquial name:

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 0.453              |           | Mechanical Removal | Restoration         |

## 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:<br>516 - Shrublands; mallee scrub, black marlock<br><br>(Shepherd 2006) | The area under application is located within Crown Reserve 27639. The proposal is to clear 0.453 hectares of native vegetation for the purpose of re-shaping and ripping a gravel pit for rehabilitation purposes.<br><br>The vegetation under application comprises individual Allocasuarina campestris spp. campestris and Eucalyptus loxophleba spp. lissophloia over a sparse understorey comprising Leptospermum erubescens, Hakea scoparia and Chamelaucium spp. with large expanses of bare gravel. The vegetation under application is in completely degraded condition. | Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994) | Vegetation clearing description is based upon site photos and vegetation identification under taken on 5/07/2007 by DEC Reserves Officer Priddle (Great Southern District) and assisted by Peter White (Rural Advisory Officer, Wheatbelt Region). |

## 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 sparse and comprises individual shrubs, with large expanses of bare gravel and is considered to be in completely degraded condition.  
  
 Given the completely degraded condition and the low species diversity of the vegetation under application, it is not considered likely to comprise a high level of biodiversity.

**Methodology** DEC Site Photos - 5/07/2007

**(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**

Within the local area (10km radius) there has been 1 recorded occurrence of significant fauna - the Malleefowl (*Leipoa ocellata*, Vulnerable).

The only recorded sighting of the Malleefowl occurred in 1993 near Graham Rock, located approximately 3.5km northwest of the area under application. These birds are confined to woodlands dominated by mallee eucalypts or acacia scrub on sandy soils that contain abundant leaf litter (Burbidge, 2004). Given that the vegetation under application is in completely degraded condition with a lack of understorey, it is not considered likely to provide suitable habitat for the Malleefowl or other ground dwelling fauna species.

The area under application is located within the distribution range of the Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*), (EPBC Act Endangered) which breed in the wheatbelt, nesting in large hollows of *Eucalyptus wandoo* and other *Eucalyptus* species (Burbidge 2004). Given the sparse vegetation under application and that *Eucalyptus* trees within the applied area are not considered to be of hollow bearing age, the vegetation is not considered likely to provide suitable habitat for the Carnaby's Black-Cockatoo, or other species that utilise hollows.

Given the lack of hollows and understorey within the vegetation under application and the limited size (0.543ha) of the applied area which is located within Crown Reserve 27639 (vested for flora conservation protection), it is not considered likely that the vegetation under application comprises significant habitat for indigenous fauna.

**Methodology** DEC Site Photos - 5/07/2007  
Burbidge (2004)  
GIS Databases:  
SAC BIO datasets - accessed on 13/02/08

**(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**

Within a 10km radius of the area under application there is one recorded population of Declared Rare Flora (DRF) *Roycea pycnophylloides*, which is located approximately 830m north of the applied area.

*R. pycnophylloides* is found within the same vegetation complex and soil type as the area under application. According to Brown, et al (1998) *R. pycnophylloides* "grows in bare grey-brown clay in open sandy saline flats with associated dwarf scrub vegetation." Given that the vegetation under application is located on gravel soils, it is not considered likely to include habitat suitable for this species.

In addition there is also one known population of Priority flora within a 10km radius of the local area, being *Acacia lanei* (P1) which is located 6.5km southwest of the applied area. Given that this species is found within a different vegetation complex and soil type to the area under application, it is not considered likely to include habitat suitable for this species.

Given that the vegetation under application is completely degraded and is not likely to include habitat suitable for DRF or Priority flora in the local area, it is not considered likely that the vegetation under application includes, or is necessary for the continued existence, of rare flora.

**Methodology** Brown et al (1998)  
GIS Databases:  
Pre-European Vegetation - DA 01/01  
Soils, Statewide - DA 11/99  
SAC BIO datasets - accessed 13/2/08

**(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 (TEC) within the local area (20km radius), with the closest TEC located approximately 102km south of the area under application. This TEC is described as BRYDE1 "unwooded freshwater wetlands of the southern wheatbelt dominated by *Muehlenbeckia horrida* subsp *abditata* and *Tecticornia verrucosa*." *M. horrida* subsp. *abditata* is found "partially submerged in freshwater lakes in waterlogged silty sands" (Western Australian Herbarium, 1998).

Given that the soils under application are sandy, yellow mottled soils containing ironstone gravels and that the TEC is found in a different soil type and vegetation complex to the applied area and that the nearest wetland is located approximately 280m to the west, it is not considered likely that the vegetation under application comprises, or is necessary for the maintenance of, a TEC.

**Methodology** DEC site photos - 5/07/2007  
 Pre-European Vegetation - DA 01/01  
 Soils, Statewide - DA 11/99  
 Western Australian Herbarium (1998)  
 GIS Databases:  
 SAC BIO datasets - accessed 13/02/07

**(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 not likely to be at variance to this Principle**

The area under application is located within the Shire of Kondinin, within which there is 13.1% of pre-European extent remaining; and the local area (~10km radius) has approximately ~23% of pre-European vegetation remaining (Shepherd 2006).

The vegetation under application has been defined as Beard vegetation association 516, of which there is 24.6% of pre-European extent remaining (Shepherd 2006). The vegetation under application is also within the Mallee IBRA Region of which there is 55.1% of pre-European vegetation remaining (EPA 2006).

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).

In addition the vegetation under application is limited to 0.543 hectares in completely degraded condition and is not considered likely to be representative of the identified vegetation complex. It is therefore not considered likely that the vegetation under application is significant as a remnant in an area that has been extensively cleared.

|                               | Pre-European area (ha)          | Current extent (ha) | Remaining %   |
|-------------------------------|---------------------------------|---------------------|---------------|
|                               | % in reserves/DEC- managed land |                     |               |
| Mallee IBRA Region            | 7,404,398                       | 4,081,089           | 55.1%** 19.5% |
| Shire of Kondinin             | 737,192                         | 422,966             | 13.1%* 13.1%  |
| Local Area (~10km radius)     | ~31,400                         | ~7,525              | ~23%          |
| Beard vegetation associations |                                 |                     |               |
| 516                           | 1,541,361                       |                     |               |
|                               | 666,416                         |                     |               |
|                               | 24.6%**                         |                     |               |
|                               | 13%                             |                     |               |
|                               | * (Shepherd et al. 2001)        |                     |               |
|                               | ** (Shepherd 2006)              |                     |               |
|                               | ***(EPA, 2006)                  |                     |               |

**Methodology** Commonwealth of Australia (2001)  
 EPA (2006)  
 Heddle et al. (1980)  
 Shepherd (2006)  
 GIS Databases:  
 NLWRA, Current Extent of Native Vegetation  
 Pre-European Vegetation

**(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 wetlands recorded within a 10km radius of the area under application. The closest watercourses are the Camm River which is located approximately 830m south and a minor drain which is situated approximately 1km south of the applied area.

Given the distance to the nearest watercourses, and that no wetland dependant vegetation was observed on site (DEC 2007), the vegetation under application is not considered likely to include vegetation growing in, or in association with, an environment associated with a watercourse or wetland.

**Methodology** DEC (2007)  
 GIS Databases:  
 Geomorphic Wetlands (Classification), Swan Coastal Plain  
 Hydrography, linear (hierarchy)

**(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**

Soils within the area under application are described yellow mottled, sandy soils containing ironstone gravels (Northcote, 1968). These soils generally have a low risk of land degradation including wind erosion and water logging (State of Western Australia 2005). The area under application is also associated with a nil to low risk of salinity and a nil risk of acid sulphate soils.

The main land degradation risk associated with the removal of vegetation on the identified soil type is considered to be water erosion. However, given the vegetation under application is limited to 0.453 hectares of completely degraded vegetation, it is not considered likely that the proposed clearing would result in appreciable water erosion leading to appreciable land degradation.

**Methodology** Northcote et al (1968)  
State of Western Australia (2005)  
GIS Databases:  
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC  
Salinity Risk LM 25m - DOLA 00  
Soils, Statewide - DA 11/99

**(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**

The area under application is located within Crown Reserve 27639 which has land use 'conservation, protection of flora.' There are also two areas reserved for conservation purposes within a 10km radius of the applied area, with the closest being an Un-named Nature Reserve (Id. 4028) which is located approximately 2.5km northeast of the applied area.

Given that the applied area is limited to 0.453 hectares of sparse vegetation in completely degraded condition, it is not considered likely that the proposed clearing would have a direct impact of the environmental values of Crown Reserve 27639.

The proposed clearing may, however, have indirect impacts on the environmental values of Crown Reserve 27639 through the spread or introduction of dieback or weed species by machinery. There are serious consequences associated with the spread of such diseases and exotic species into an area reserved for conservation, including the potential extinction of local species.

Given that the proposed clearing may have an indirect impact on the environmental values of Crown Reserve 27639, it is considered that the proposal may be at variance to this Principle.

If a permit is granted, conditions will be imposed requiring dieback and weed prevention measures.

**Methodology** GIS Databases:  
Bushforever  
CALM Managed Lands and Waters

**(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 nearest watercourse is the Camm River, which is located approximately 830m south of the area under application. The applied area is within the Swan Avon Lockhart Catchment, but is not located within a Public Drinking Water Source Area.

The main land degradation risk associated with the removal of vegetation on the identified soil type is considered to be water erosion. However, given the vegetation under application is limited to 0.453 hectares of completely degraded vegetation, it is not considered likely that the proposed clearing would cause water erosion resulting in the deterioration in surface water quality.

The area under application has a nil to low risk of salinity and a nil to low risk of acid sulphate soils. Given that there is a low to nil risk of salinity and acid sulphate soils, it is not considered likely that the proposed clearing would cause salinity or acid sulphate soils resulting in the deterioration in the quality of underground water.

**Methodology** GIS Databases:  
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC  
Hydrographic Catchments - Catchments - DOW  
Hydrography, linear (hierarchy) - DOW

**(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 830m north of the Camm River at an elevation of 313-320m. Given the area is limited to 0.453ha of completely degraded vegetation, it is not considered likely that the proposed removal of vegetation would impact on peak flood height or duration.

**Methodology** GIS Databases:  
Hydrography, linear (hierarchy) - DOW  
Topographic Contours, Statewide

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

**Comments**

The area under application is not located within a Native Title Claim area.

The Department for Planning and Infrastructure has no objections to the proposed entry onto the reserve and rehabilitation works provided that the Shire of Kondinin is consulted prior to the commencement of any works.

The Shire of Kondinin has given permission for DEC to access the reserve to carry out rehabilitation work on the gravel pit.

**Methodology** Native Title Claims - DIA

**4. Assessor's comments**

| Purpose     | Method Applied     | area (ha)/ trees | Comment  |
|-------------|--------------------|------------------|--|
| Restoration | Mechanical Removal | 0.453            | The assessable criteria have been addressed and the proposed clearing may be at variance to Principle (h). |

**5. References**

Brown, A., Thomson-Dans, C. and Marchant, N. (1998). Western Australia's Threatened Flora. Department of Conservation and Land Management. Perth, Western Australia.

Burbidge, A. (2004) Threatened Animals of Western Australia, Department of Conservation and Land Management, Perth, Western Australia.

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

DEC (2007) Advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, received 7/12/07. Great Southern District, Department of Environment and Conservation, Western Australia (TRIM ref: DOC 41267).

DEC (2007), pers. comm. (DEC TRIM ref: DOC 46041).

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.

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

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 (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 Visit 5/07/2007, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC46264

Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.calm.wa.gov.au/> Accessed on 18/02/2007.

## 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)                    |