



1. Application details

1.1. Permit application details

Permit application No.: 2640/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Laverton

1.3. Property details

Property: ROAD RESERVE (COSMO NEWBERY 6440)
 ROAD RESERVE (COSMO NEWBERY 6440)
 Local Government Area: Shire Of Laverton
 Colloquial name: Great Central Road

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
8.56		Mechanical Removal	Road construction or maintenance

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 (18 and 1239): Vegetation type 18 can be described as low woodland, mulga (Acacia aneura). Vegetation type 1239 can be described as hummock grasslands, open medium tree & mallee steppe, marble gum & mallee (E. youngiana) over hard spinifex <i>Triodia basedowii</i> on sandplain (Shepherd et al. 2001)	The area under application consists of only isolated trees (Mulga) and sparse spinifex and small shrubs.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	According to Aerial photography the area under application is in a very good (Keighery, 1994) condition. The vegetation surrounding the area proposed to clear is well represented and is approximately 98% vegetated.

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 at variance to this Principle**
 The proposal is to selectively remove 8.56ha of native vegetation for the purpose of upgrading the Great Central Road. This section of the road is susceptible to serve floods and therefore the formation is proposed to be raised considerably to allow for drainage. The area is in a very good (Keighery 1994) condition, consisting of only isolated trees (Mulga) and sparse spinifex and small shrubs.

The proponent advises that cleared vegetation within the area under application will be re-planted to rehabilitate old gravel pits. The local area is surrounded by extensive native vegetation (there is 100% remaining in the local area, which is a 50km radius). Due to this, it is not considered to hold significant biodiversity values and is therefore not at variance to this principle.

Methodology Keighery (1994)
 GIS Database:
 - Western Australian Landsat Orthomosaic 25m - AGO 2006

(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 at variance to this Principle**
Within a 50km radius there are no records of any threatened, priority or local fauna. The local area is surrounded by extensive native vegetation (there is 100% remaining in the local area, which is a 50km radius). Due to this, it is not considered to be significant habitat for fauna species and the clearing as proposed is therefore not at variance to this principle.

Methodology GIS Database:
- Threatened Fauna, SAC Bio Dataset (22/08/08)
- Western Australian Landsat Orthomosaic 25m - AGO 2006

(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**
Within the local area (50km radius) of the site under application there is one record of rare flora being *Conospermum toddii* (Victoria Desert Smokebush).

Conospermum toddii grows in yellow sand and sand dunes (Western Australian Herbarium, 1998).

Conospermum toddii was recorded 24.5 km west of the area under application. It grows in the same Beard vegetation type (1239) and grows in the same soil type (AB50) as the area under application. There are 24 records of *Conospermum toddii* recorded 200km south of the area under application. Given the single population 24km west of the proposed clearing, this indicates the species is likely to occur within the local area of the area under application.

As the area under application comprises of the same soil and vegetation type as the rare flora species, the proposed clearing may contain suitable habitat and therefore the proposed clearing may be at variance to this Principle. If the area under application is granted, a flora management condition will be placed on the permit.

Methodology Shepherd et al. (2001)
Western Australian Herbarium (1998)
GIS Database:
- Western Australian Landsat Orthomosaic 25m - AGO 2006
- DEFL, SAC Bio Dataset (22/08/08)

(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 at variance to this Principle**
There are no known threatened ecological communities (TECs) occurring within a 50km area. Therefore the clearing as proposed is not at variance to this principle.

Methodology GIS Database:
- TEC Database, SAC Biodatasets - accessed 22/08/08

(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 at variance to this Principle**

Pre-European IBRA Bioregion	Current Extent Remaining		
Great Victoria Desert Shire	21,794,203.41	21,784,881.80	100
Laverton Beard Vegetation 1239	17,952,873.01	17,945,455.80	100
18	2,234,311.66	2,234,311.66	100
	19,892,306.77	19,890,218.99	100

The area under application is located in the Great Victoria Desert Bioregion and is in the Shire of Laverton. The extent of pre-European vegetation (18 and 1239) within this Bioregion is 100% (Shepherd et al. 2001) and within the Shire of Laverton is 100% (Shepherd et al. 2001).
Vegetation has not been extensively cleared within this region, and is higher than the desirable 30% threshold level target identified by the EPA (2000).

As the area under application is considered to be in a very good (Keighery 1998) condition, the vegetation under application is considered to be representative of these vegetation types (18 and 1239), however the area under

application is surrounded by extensive native vegetation (there is 100% remaining in the local area, which is a 50km radius). The area under application is therefore not at variance to this principle.

Methodology EPA (2000)
Shepherd (2006)
Shepherd et al. (2001)
GIS Database:
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Pre European Vegetation, SAC Bio Dataset (22/08/08)
- Western Australian Landsat Orthomosaic 25m - AGO 2006

(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 may be at variance to this Principle

There are several non-perennial minor watercourses which run through the area under application. In addition to this, a non-perennial lake is 5.9km south. The Shire has stated that the Great Central Road is severely depressed and floods during inclement weather. Additionally roads are proposed to be cleared, formed, graveled with drainage and signage installed (Supportive Information - Application, 2008). The drains will maintain the flow of the watercourses and manage flood waters.

Vegetation is considered to be in association with the non-perennial minor watercourses, however the installation of infrastructure is designed to maintain the integrity of the watercourse. Therefore the proposal may be at variance to this principle due to the short term effects on the watercourse.

Methodology GIS Database:
- Hydrography linear (hierarchy) - DoW 13/7/06

(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 topography of the site is 550m AHD (Australian Height Datum) and the land is situated within a plateau. The area under application is within a transitional zone of soil (My100 and AB50). The soil type AB50 is described as plains with scattered dunes and small breakaways of unit, chief soils are red earthy sands, some containing ferruginous nodules, some underlain by a red-brown hardpan (Northcote et al. 1968). The soil type My100 is described as gently sloping plains with extensive gravel pavements, chief soils are shallow red earths underlain by a red-brown hardpan (Northcote et al. 1968).

The groundwater salinity is transitional between 500 to 3000mg/L (Low to medium salinity risk). The mean rainfall is 300mm per annum and the evapotranspiration rate is 300mm. The area under application is subject to inundation (Supportive Information - Application, 2008).

As the surrounding area is highly vegetated waterlogging and salinity is unlikely to occur, therefore is not likely to be at variance to this principle.

Methodology Northcote et al. (1968)
Supportive Information - Application (2008)
GIS Database:
- Evapotranspiration Isopleths - WRC 29/09/98
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrogeology, statewide DOW 13/07/06
- Mean Annual Rainfall Isohytes (1975 - 2003) DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

(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 at variance to this Principle

The proposed clearing site is 50km from De La Poer Range Nature Reserve.

The proposed clearing is small (clearing within a road reserve, 8.56ha) and surrounded by extensive native vegetation (there is 100% remaining in the local area, which is a 50km radius). Therefore the area under application is unlikely to have any impact on the nature reserve. Therefore the proposed clearing is not at variance to this principle.

Methodology GIS Databases:
- CALM Managed Lands and Waters - CALM 01/06/05

(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 may be at variance to this Principle

There are several non-perennial minor watercourses which run through the area under application. In addition to this, a non-perennial lake is 5.9km south. The shire has stated that the Great Central Road is severely depressed, flooding during inclement weather. Additionally roads are proposed to be cleared, formed, graveled with drainage and signage installed. The drains will help bypass the watercourses and floods. There will be short term effects of sedimentation and turbidity during the clearing, as the infrastructure is installed.

The mean rainfall is 300mm per annum and the evapotranspiration rate is 300mm. The area under application is subject to inundation, causing waterlogging and flooding.

Water quality will be comprised for a short time during the upgrade, however the installation of infrastructure is designed to maintain the integrity of the watercourse.

Methodology GIS Database:

- Evapotranspiration Isopleths - WRC 29/09/98
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrogeology, statewide DOW 13/07/06
- Mean Annual Rainfall Isohytes (1975 - 2003) DEC 02/08/05

(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 may be at variance to this Principle

The area under application is situated within a plateau. The area under application is subject to inundation, causing flooding due to the low relief and inclement weather. However drains will be installed to manage water to protect the infrastructure and the proposal is a relatively small amount of clearing. The proposal therefore may be at variance to this principle.

Methodology GIS Database:

- Evapotranspiration Isopleths - WRC 29/09/98
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrogeology, statewide DOW 13/07/06
- Mean Annual Rainfall Isohytes (1975 - 2003) DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The area under application is zoned in road reserve.

Methodology GIS Database:

- Town Planning Scheme Zones - MFP 31/08/98

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is not at variance to principles (a), (b), (d), (e) and (h), Principle (g) is not likely to be at variance, Principle (c) may be at variance and the remaining principles may be at variance.

5. References

- 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, Western Australia.
- 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, 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.
- Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/>. Accessed on 20/08/08

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)

