



1. Application details

1.1. Permit application details

Permit application No.: 1386/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Shire of Northam

1.3. Property details

Property: LOT 297 ON PLAN 194442

Local Government Area: Shire Of Northam

Colloquial name:

1.4. Application

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

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 1006: Medium woodland; jarrah, wandoo and powderbark (Hopkins et al. 2001, Shepherd et al. 2001).	The area under application (Lot 297) is located within Reserve 3308, which is vested with the Shire of Northam with the land use of Recreation. The clearing is for the construction of a BMX track within the Bakers Hill townsite. The area applied to be cleared was amended to 0.3ha and the amended area is triangular in shape with north-western boundary adjacent to a road reserve, the eastern boundary adjacent to Yates Street and the southern boundary adjacent to Great Eastern Highway and Reserve 29315 (vested with the Water Corporation with the landuse of waterway).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The proposed BMX track will be constructed utilising degraded areas within Lot 297.
Hedde Vegetation Complex: Coolakin Complex in Low Rainfall: No information available (Hedde et al. 1980)			The vegetation under application is considered to be in a degraded condition due to weed invasion and rubble and only small patches of native vegetation including mature wandoo trees and few regenerating jarrah trees (Site visit 2006).
Mattiske Vegetation Complex Coolakin Complex: Woodland of Eucalyptus wandoo with mixtures of Eucalyptus patens, Eucalyptus marginata subsp. thalassica and Corymbia calophylla on the valley slopes in arid and perarid zones (Mattiske Consulting 1998).	The area to be cleared is predominantly degraded with rubble and weeds such as Watsonia sp. and Juncus acutus. The limited native vegetation consists of jarrah (Eucalyptus marginata) and wandoo (Eucalyptus wandoo), with a sparse middlestorey of Hakea sp. and Xanthorrhoea sp. (Site visit 2006).		Following a site visit on 6/07/2006 the area applied to be cleared was amended to 0.3ha, which would exclude a stand of mature wandoo trees and provide a buffer of vegetation between the proposed clearing and an adjacent brook, located in the western portion of the Lot.

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

A member of the local landcare group advised DEC staff, during a site visit (2006) that the area under application, located within Reserve 3308 (vested with the Shire of Northam for the use of Recreation), has been subject to illegal rubbish dumping and infestations of Watsonia sp.. During the site visit (2006), DEC staff

observed the area under application to be predominantly a degraded area with weeds and rubble with only small patches of native vegetation including few jarrah (*Eucalyptus marginata*) and wandoo (*Eucalyptus wandoo*) trees.

There are several conservation reserves within 10km of the area under application, including Woondowing Nature Reserve approximately 2.8km west of the area under application, Kwolyinine Nature Reserve 4.9km south-west, Clackline Nature Reserve 6.5km north-east, Warranine Nature Reserve 7.8km east and Inkpen Road Nature Reserve 7.9km south south-west. Given the level of disturbance from weed invasion and dumping it is unlikely that the area under application is of higher biodiversity value than that of other less disturbed areas in the local area, including that in the local reserves.

Methodology Site visit (6/07/2006) (DEC TRIM Ref DOC1718)
GIS Databases:
- Northam 1m Orthomosaic - DLI 12/03

(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

The area applied to be cleared is located within the Bakers Hill Township and is zoned urban. It is predominantly a degraded area with weeds and rubble with only small patches of native vegetation including few jarrah (*Eucalyptus marginata*) and wandoo (*Eucalyptus wandoo*) trees.

The area is bounded by a road reserve on the north-western boundary, an established road (Yates Street) on the eastern boundary and is adjacent to Great Eastern Highway and Reserve 29315 on the southern boundary. The proximity of these transport corridors compounds the level of disturbance and continues to result in noted edge effects. Reserve 29315 is vested with the Water Corporation and a large above ground pipe runs in an east-west direction immediately south of the area under application.

Given the small area under application (0.3ha), the degree of disturbance that has occurred and the potential for continued disturbance from adjacent land uses, it is unlikely that the vegetation within the area under application comprises significant habitat for fauna indigenous to Western Australia.

Methodology GIS Databases:
- Northam 1m Orthomosaic - DLI 12/03
- Cadastre - DLI 1/12/05

(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

There are no records of Declared Rare Flora (DRF) within the area under application or within 5km of the area under application. The nearest recorded DRF is located approximately 7.6km east of the proposed area.

Given the small area under application (0.3ha), the large distance to the nearest DRF, and the level of degradation and weed invasion within the area, it is unlikely that the vegetation proposed to be cleared includes or is necessary for the continued existence of rare flora.

Methodology GIS databases:
- Declared Rare and Priority Flora List - CALM 01/07/05

(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 (TECs) within the area under application with the nearest recorded TEC located approximately 35.2km south-east.

It is therefore unlikely that the vegetation proposed to be cleared comprises the whole or part of or is necessary for the maintenance of a TEC.

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 not at variance to this Principle

The vegetation under application is mapped as a component of Beard Vegetation Association 1006 (Shepherd et al 2001, Hopkins et al. 2001), Heddle's Coolakin Complex in Low Rainfall (Heddle et al. 1980) and Mattiske's

Coolakin Complex (Mattiske Consulting 1998).

Beard Vegetation Association: 1006 has 50.7% (26,929ha) of the original extent remaining with 43.2% in secure tenure (Shepherd et al 2001, Hopkins et al 2001). This vegetation type is therefore regarded as 'least concern' (>50%) in terms of biodiversity conservation (Department of Natural Resources and the Environment 2002).

Mattiske Vegetation Complex: Coolakin has 42.9% (573,908ha) of the original extent remaining (Mattiske Consulting 1998). This vegetation type is therefore regarded as 'depleted' (>30% to 50%) in terms of biodiversity conservation (Department of Natural Resources and the Environment 2002).

There is no information available for the Heddle Coolakin Complex in Low Rainfall.

The area under application is mapped within the Jarrah Forrest IBRA Region of which 58.7% of native vegetation remains (Shepherd et al 2001, Hopkins et al 2001). Given the proposed clearing of 0.3ha is relatively small compared to the area of remnant vegetation remaining within the Region (2,665,480ha) (Shepherd et al 2001) and the degraded condition of the area to be cleared, the vegetation proposed to be cleared is not likely to be significant as a remnant of native vegetation in the surrounding area.

Methodology Department of Natural Resources and Environment (2002)
Hopkins et al. (2001)
Shepherd et al. (2001)
Heddle et al. (1980)
Mattiske Consulting (1998)
GIS Databases:
- Pre-European Vegetation - DA 01/01
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

(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 likely to be at variance to this Principle

There is a minor non-perennial watercourse, a tributary of Clackline Brook, flowing from north to south in the western section of Lot 297, to the west of the area under application.

Although the vegetation complexes mapped for the area suggests that the vegetation is consistent throughout the property, there appeared to be a marked difference in the vegetation associated with the brook, including *Atriplex* sp. and *Juncus* sp. (Site visit 2006). Topographically, the land rises from the brook to plateau on the eastern portion of the property incorporating the area under application. With the change in topography, so the vegetation changes from wetland dependant in the west to that which is not wetland dependant to the east, including the area under application. Therefore, the vegetation proposed to be cleared is not growing in or associated with a watercourse or wetland.

Notwithstanding, the amended area (from 0.5 to 0.3ha) will provide a buffer of vegetation between the proposed clearing and the brook.

Methodology Site visit (6/07/2006) (DEC TRIM Ref DOC1718)
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 landform of the area under application and surrounds can be described as valleys that are frequently narrow, along with breakaways and undulating areas with drainage-ways and basins. The chief soils are hard acidic yellow mottled soils along with sandy acidic yellow mottled soils, all of which contain moderate amounts of ironstone gravels in their surface horizons.

The area under application is relatively flat with a fairly short fall (<5 m) 50 m west of the area under application to the flat plain of the Clackline Brook tributary (Site visit 2006). The area proposed to be cleared is sufficiently distant from the decline inasmuch as the clearing as proposed is not likely to cause appreciable land degradation. Furthermore, the gravel in the surface horizons will further reduce the likelihood of appreciable land degradation.

Methodology Site visit (6/07/2006) (DEC TRIM Ref DOC1718)
GIS Databases:
- 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 is not at variance to this Principle

There are several conservation reserves within 10km of the area under application, including Woondowing Nature Reserve approximately 2.8km west of the area under application, Kwoyinine Nature Reserve 4.9km south-west, Clackline Nature Reserve 6.5km north-east, Warranine Nature Reserve 7.8km east and Inkpen Road Nature Reserve 7.9km south south-west.

Given that the small area under application (0.3ha) is sufficiently distanced from the nearby nature reserves, and contains vegetation in a predominantly degraded condition, it is unlikely that the clearing as proposed will have an impact on the environmental values of the nearby conservation reserves.

Methodology 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

With an average annual rainfall of 650mm and an annual evaporation rate of 2,000mm there is likely to be little surface flow during normal seasonal rains. It is only during major rainfall events that there would be significant surface flow and this flow during these events tends to be relatively fresh. The Clackline Brook within the Main Avon Catchment becomes a medium for the collection and transportation of the major flows.

With high annual evaporation rates and low annual rainfall there is little recharge into regional groundwater table, which at this site is between 3,000 mg/l and 7,000 mg/l and is considered to be brackish to low saline. The proposed clearing of 0.3ha native vegetation is unlikely to have an impact on regional groundwater considering the small size of the proposal and the magnitude of the Yilgarn-Southwest Groundwater Province (~246,000 sq km).

Methodology 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, Catchments - DOE 23/03/05

(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 is not likely to be at variance to this Principle

With an average annual rainfall of 650mm and an annual evaporation rate of 2,000mm there is little surface flow during normal seasonal rains. It is only during major rainfall events that there is a likelihood of flooding; the river systems of the region are designed to compensate and sustain floodwaters in these instances. Given the small scale of the proposed clearing (0.3ha), it is unlikely to cause or exacerbate the incidence or intensity of flooding.

Methodology 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 area under application (Lot 297) is located within Reserve 3308, which is vested with the Shire of Northam with the land use of recreation (Information provided by the proponent 2006).

A submission was received from the Shire of Northam stating that the Shire supported the proposed construction of a BMX track within Lot 297 (Submission 2006).

Methodology There is no other RIWI Act Licence, Works Approval or EPA Act Licence that affects the area under application. Information provided by the proponent (2006) (DoE TRIM Ref EI6518) Submission (2006) (DEC TRIM Ref DOC811)
GIS databases:
- RIWI Act, Groundwater Areas - WRC 13/06/00
- RIWI Act, Surface Water Areas - WRC 18/10/02

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Recreation	Mechanical Removal	0.5	Grant	<p>Following a site visit the area under application was amended from 0.5 to 0.3ha, to confine the BMX track to degraded areas, avoid mature wandoo trees within the area and maintain a buffer to the tributary of Clackline Brook.</p> <p>An assessment of the amended area against the ten clearing principles has been completed and it has been determined that the clearing is not likely to be at variance to any of the clearing principles. The assessing officer therefore recommends that a permit should be granted.</p>

5. References

- 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.
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske Consulting (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.
- 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
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)