



1. Application details

1.1. Permit application details

Permit application No.: 1515/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Town of Northam

1.3. Property details

Property: LOT 422 ON PLAN 101078 (Lot No. 422 OLD QUARRY NORTHAM 6401)
Local Government Area: Shire Of Northam & Town Of Northam
Colloquial name:

1.4. Application

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

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 4 - Medium woodland; marri and wandoo	The purpose of the clearing permit is for the extension of septage ponds in the Town of Northam. Total area of the proposed clearing is 0.37ha of native vegetation. Aerial photographs suggest the area to be cleared is of Good condition (Keighery, 1994). The vegetation of the area under application appears to have undergone previous disturbance, but retains basic vegetative structure with a good stand of mature trees and a middle storey of smaller shrubs/trees. Adjoining the western boundary of the proposed clearing area is an existing septage pond of similar size to the area under application.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Vegetation condition was deemed to be in 'Good' condition from aerial photos (Northam 1m Orthomosaic - DLI 12/03).

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 may be at variance to this Principle

The area under application is for the construction of septage ponds on land reserved for rubbish disposal, and lies adjacent to existing waste water treatment ponds. Aerial photos suggest that the proposed clearing of 0.37ha is in good condition (Keighery, 1994), comprising medium woodland of marri and wandoo (Hopkins et al, 2001). This vegetation type has a low representation of 23.5%, and the Town of Northam retains only 22.1% of pre-European vegetation (Shepherd et al, 2001). These figures are below the 30% National Objectives Targets for Biodiversity Conservation (Department of Natural Resources and Environment, 2002; EPA 2000), beyond which species extinction is believed to occur at an exponential rate and any further clearing may have irreversible consequences for the conservation of biodiversity.

The Town of Northam also lies within the agricultural zone of EPA Position Paper No. 2, where the further reduction in native vegetation through clearing for agriculture is not supported by the EPA.

Within a ten kilometre radius of the area under application there are eighteen mapped records of Declared Rare Flora (DRF) and eight occurrences of Priority Flora, the closest being a DRF species (*Acacia aphylla*) located 2.3km south-west of the proposed clearing area. Although it appears that the original biodiversity value of the proposed clearing site has been compromised, the basic vegetative structure remaining may be significant as habitat for indigenous flora in an area that has been extensively cleared. Therefore the proposal may be at variance to this principle.

To mitigate any potential impacts on the clearing of remnant vegetation, 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, to address the loss of vegetation within a highly cleared landscape, a condition has been imposed to offset the values of the area to be cleared.

Methodology Hopkins et al (2001)
Keighery (1994)
Department of Natural Resources and Environment (2002)
EPA (2000)
GIS Database:
- Northam 1m Orthomosaic - DLI 12/03
- Declared Rare and Priority Flora List - CALM 01/07/05

(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 Town of Northam is proposing to clear a total of 0.37 hectares for the construction of septage ponds. Aerial photos suggest that the area to be cleared is in Good Condition (Keighery, 1994) with obvious signs of disturbance. Although it appears that the original biodiversity and habitat value has been compromised, the basic vegetative structure remaining may represent significant habitat for local fauna populations. Therefore the proposed clearing may be important regionally as significant habitat value for indigenous fauna in an area that has been extensively cleared.

Methodology Keighery (1994)
GIS Database:
- Northam 1m Orthomosaic - DLI 12/03

(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 eighteen mapped records of Declared Rare Flora (DRF) within a ten kilometre radius of the area under application, the closest being 2.3km south-west of the proposed clearing area. These include seventeen records of *Acacia aphylla* and one record of *Lechenaultia loricata*. Eleven records of *Acacia aphylla* are located less than four kilometres from the proposed clearing area. All of these DRF species occur within environmentally sensitive areas.

One Priority 2 Flora (*Lasiopetalum* sp.) and seven records of Priority 4 Flora occur within a ten kilometre radius of the area under application. The Priority 4 flora include two populations of *Eremaea blackwelliana*, one population of *Caladenia integra*, and four populations of *Eucalyptus loxophleba* x *wandoo*.

These DRF and Priority species occur on the same Beard vegetation complex as that of the proposed clearing, of which there is only 23.5% remaining (Shepherd et al., 2001).

Given the highly cleared nature of the surrounding areas, and the level of disturbance within the application area, it is unlikely that vegetation within the proposed clearing includes, or is necessary for the continued existence of, rare flora.

However, due to the highly cleared nature of the Shire and the number of DRF and priority species identified within the local area, a condition has been imposed to offset the values of the area to be cleared.

Methodology Shepherd et al., 2001
GIS Database:
- 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

Mapping indicates there are no threatened ecological communities within a fifteen kilometre radius of the area under application, therefore the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Database:
 - Threatened Ecological communities - CALM 12/04/05
 - Threatened Plant Communities - DEP 06/95
 - Environmentally Sensitive Areas - DOE 30/5/05

(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			Conservation Status**	% in Secure Tenure
	Pre-European (ha)*	Current Extent (ha)*	Remaining (%)*		
IBRA Bioregion:					
Jarrah Forest	4,503,156	2,624,301	58.3	Least concern	
Shire: Northam	141,410	31,229	22.1	Vulnerable	
Beard Unit 4	1,247,834	292,993	23.5	Vulnerable	11.0

The area under application is located in the Town of Northam and within the Jarrah Forest Bioregion. The extent of pre-European vegetation within these areas is 22.1% and 58.3% respectively (Shepherd et al., 2001).

The vegetation proposed to be cleared is a component of Beard Vegetation Association 4 (Hopkins et al., 2001) of which there is only 23.5% of the pre-European vegetation extent remaining (Shepherd et al., 2001). This vegetation type is therefore considered as having a 'Vulnerable' conservation status (Department of Natural Resources and Environment, 2002). 11.0% of this Beard vegetation type is in secure tenure.

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). Beyond this value, species extinction is believed to occur at an exponential rate and any further clearing may have irreversible consequences for the conservation of biodiversity.

The Town of Northam also lies within the agricultural zone of EPA Position Paper No. 2. The EPA does not support the further reduction in native vegetation through clearing for agriculture and supports active management by landholders to maintain environmental values of remaining vegetation.

Given the low representation levels of the vegetation association within the region, and the current extent of remaining vegetation within the Town of Northam, the proposed clearing is at variance to this principle.

To mitigate any potential impacts on the clearing of remnant vegetation, 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, to address the loss of vegetation within a highly cleared landscape, a condition has been imposed to offset the values of the area to be cleared.

Methodology EPA (2000)
 Shepherd et al (2001)
 Hopkins et al., 2001
 Department of Natural Resources and Environment (2002)
 GIS Database:
 - Pre-European Vegetation - DA 10/01
 - 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 may be at variance to this Principle**
 There are no wetlands associated with the proposed clearing site. However, a minor non-perennial watercourse passes through the area proposed to be cleared. Removal of native vegetation may result in changes to hydrological processes and flow regimes, channel location, and vegetation associated with or influencing the values of the watercourse. Therefore the proposed clearing may be at variance to this principle.

Methodology GIS Database:
 - Hydrography, Linear - DOE 1/2/04
 - Topographic Contours, Statewide - DOLA 12/09/02

(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

Given the low relief and shallow gradients of the topography within the region, and the size of the area to be cleared, the proposed clearing of native vegetation is unlikely to cause appreciable land degradation.

Methodology GIS Database:
- 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 likely to be at variance to this Principle

The area proposed to be cleared does not lie within or adjacent to areas set aside for conservation. The closest conservation area is a 'C' Class Reserve, Bobakine Nature Reserve, located 8.5kms WSW of the area under application. Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Database:
- CALM Managed Lands and Waters - CALM 1/07/05

(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

The proposed clearing site lies within the Swan Avon_Main Avon Catchment. The region is of low relief with shallow gradients, and has an annual rainfall of 500mm.

Due to the small area proposed to be cleared in relation to the topography, it is unlikely that the clearing of native vegetation will cause deterioration in the quality of surface water or groundwater within the local area.

Methodology GIS Database:
- Hydrographic Catchments - Catchments - DOE 23/03/05
- Rainfall, Mean Annual - BOM 30/09/01
- 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

Due to the scale and nature of the proposed clearing, it is unlikely to cause or exacerbate flooding within the local area.

Methodology GIS Database:
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

No submissions from the public have been received.

The clearing application is for the construction of a proposed waste water facility on land reserved for the purpose of rubbish disposal. Reserve 26840 was registered on 25 January 1994.

Confirmation received from DEC Swan Region that a Works approval is not required for the proposed works.

There is no RIWI Act Licence required for the proposed works.
There are no Native Title Claims over the area under application.

Methodology GIS Database:
- Native Title Claims - DLI 07/11/05
- RIWI Act, Areas - WRC 05/04/02

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Miscellaneous	Mechanical Removal	0.37	The assessable criteria have been addressed, and the proposal is not likely to be at variance to Principles (c), (d), (g), (h), (i) and (j); may be at variance to Principles (a), (b) and (f); and is at variance to Principle (e).

Principles (a), (b) and (f): Given the low representation of the vegetation type proposed to be cleared, and that the area under application falls within an extensively cleared area, there is the potential for the removal of native vegetation in the area to be at variance to Principles (a) and (b).

Principle (f): Native vegetation growing in association with a minor non-perennial watercourse may be affected by the clearing as proposed.

Principle (e): The proposal is within Beard Vegetation Unit 4, which has been highly cleared (23.5% remaining). Only 22.1% of pre-European vegetation is remaining within the Town of Northam. The National Objectives Targets for Biodiversity Conservation 2001 - 2005 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 conditions in the permit requiring offset plantings to ensure there is a net gain of native vegetation in the area should minimise any potential effects from the proposed clearing.

Given that the clearing application is for the construction of septage ponds on land reserved for rubbish disposal, it is recommended that a permit be granted for the clearing of 0.37 hectares of native vegetation with conditions aimed at avoiding and minimising the clearing of native vegetation, and offsetting the net loss of biodiversity within the Northam Shire.

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.
- 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.
- 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.
- 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)