



1. Application details

1.1. Permit application details

Permit application No.: 2079/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Northampton

1.3. Property details

Property: KALBARRI TOWNSITE LOT 576 (KALBARRI 6536)
Local Government Area: Shire Of Northampton
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
11.8		Mechanical Removal	Extractive Industry

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 383: Shrublands: Acacia rostellifera scrub-heath. (Hopkins et al. 2001, Shepherd et al. 2001).	The vegetation is best described as scrub-heath, forming a dense coverage approximately 1.5m high which is dominated by Allocasuarina campestris. Other flora within the application area are Acacia rostellifera and grevillea species (DEC Site Visit, 2007).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The condition of the vegetation was determined during a site visit conducted on the 13th November 2007 (DEC Site Visit, 2007).

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 Biodiversity Coordination Section of DEC (2006) advised that Kalbarri supports a high diversity of fauna and flora species. Much of the Kalbarri area is on the Register of National Estate as the Kalbarri National Park, which is managed for conservation by the DEC. On the Register of National Estate (DEH 2006) it is stated that 'Kalbarri is one of a number of areas in the wheatbelt that are significant for rare species due to widespread clearing in the surrounding landscape, and to the high diversity and level of local endemism.' The area under application is approximately 1km to the Kalbarri National Park and therefore may possess similar biodiversity as the surrounding landscape. Therefore the proposal is considered to be at variance to this Principle.

Methodology Biodiversity Coordination Section, DEC 2006.
GIS Databases:
- CALM Managed Lands & Waters - CALM 01/07/05
- Register of National Estate - EA 28/01/03

(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 may be at variance to this Principle**
There are 7 known records of endangered and threatened fauna within a 10km radius of the application area. Of them, 6 records are of the vulnerable *Leipoa ocellata* (Malleefowl) and one record of the priority 5 *Macropus eugenii derbianus* (Tamar Wallaby).

The Biodiversity Coordination Section, DEC (2006) advised that 'Malleefowl can be sedentary with pairs using the same nest site each season, over successive years. They are found in eucalypt dominated woodlands and

in some shrublands dominated by acacia. They require a sandy substrate and an abundance of leaf litter for the construction of their nests. As the area is indeed sandy and supports acacia shrubland, it is possible that it may be suitable for Malleefowl.' No Malleefowl nests were sighted within the application area (DEC Site Visit, 2007).

Given the large application area (11.8ha) and the suitability of the area for Malleefowl, clearing of native vegetation within the application area, may be at variance to this principle. Therefore, if the application is granted, a condition may be placed on the permit to conduct a fauna survey, and if Malleefowl are present, they are to be removed and relocated.

Methodology Biodiversity Coordination Section, DEC (2006)
 DEC Site Visit (2007)
 GIS Layers:
 - Sac Bio Datasets 150108

(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 18 known records of rare and priority flora within a 10km radius of the application area. The radius consists of 6 records of *Beyeria cygnorum* (P3), 5 records of *Lechenaultia chlorantha* (R), 3 records each of *Triodia bromoides* (P4) and *Stachystemon namatophorus* (R) and lastly one record of *Frankenia confusa* (P2).

The only record to be within the same vegetation and soil type as the application area is *L. chlorantha* sighted 3.4km south. It is usually found on rocky sandstone gullies and on ledges, both formations which appear to be absent from the application area (DEC Site Visit, 2007)

Furthermore, a site visit, undertaken by a DEC Flora Conservation officer (2007), confirmed that the proposed clearing is not likely to impact on Declared Rare or Priority Flora as these were not found to be present. The vegetation community found at the site is not known to be appropriate habitat for any of the DRF and most of the Priority Flora recorded within a 10km radius of the site.

This proposal is therefore unlikely to be at variance with this Principle.

Methodology Biodiversity Coordination Section, DEC (2006)
 DEC Site Visit (2007)
 DEC Flora Conservation officer (2007)
 GIS Databases:
 - Declared Rare and Priority Flora list - CALM 01/07/05
 - Clearing Regulations - Environmentally Sensitive Areas - DoE 30/05/05

(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 (TEC's) within a 10 km radius of the area under application. Therefore it is unlikely that the proposed clearing is at variance with this Principle.

Methodology GIS Databases:
 - SAC Bio Datasets 150108

(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 area under application falls outside of the Intensive Land use Zone but within the Geraldton Sandplains Bioregion, and the Shire of Northampton, which have 42.7% and 72% respectively of native vegetation remaining (Shepherd et al, 2001). In addition, Beard Vegetation Association type 383 is well represented with 98.4% remaining and 18% reserved in conservation estate (Shepherd et al, 2001).

Given that the area under application falls outside of the Intensive Land use Zone and is well represented through vegetation extent, this proposal is not at variance with this Principle.

	Pre-European area (ha)	Current extent (ha)	Remaining %*	Reserves/CALM-managed land, %
IBRA Bioregion – Geraldton Sandplains	3,136,026	1,337,757	42.7	35.3
Shire - Northampton	1,252,70	904,125	72.2	20.4

Beard veg type - 383 13,292 13,080 98.4 18.0

* (Shepherd et al. 2001; Shepherd, 2006)

Methodology Shepherd et al, (2001)
GIS Databases:
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Pre-European Vegetation - DA 01/01
- Local Government Authorities - DLI 08/07/04
- 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 is not likely to be at variance to this Principle**
No watercourses or wetlands occur within the area under application. There is an Australian Nature Conservation Agency (ANCA) wetland located approximately 1.4 km from the area under application within the lower reaches of the Murchison River.

A minor perennial watercourse is located 100m from the application area with a low relief descending from the area toward the watercourse.

Given the distance, it is unlikely that the vegetation under application is growing in, or in association with, an environment associated with a watercourse or wetland.

Methodology GIS Databases:
- Hydrography, linear - DoE 01/02/04
- Hydrographic Catchments - Catchments - DoE 23/03/05
- ANCA, Wetlands - CALM 08/01

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments **Proposal may be at variance to this Principle**
The topography of the region is relatively flat with an elevation rising from 20-40 AHD, receiving a mean annual rainfall of 500mm. Groundwater salinity has been mapped between 500-1000mg/L Total Dissolved Solids(TDS) giving it a low rating.

Acid Sulfate Soils (ASS) risk has not been mapped for the area. Chief soils on the plains are leached, loose, yellow siliceous sands (Northcote et al., 1960).

Given the large application area (11.8ha) and the sandy soil structure, there is a moderate risk of wind erosion. The application may be at variance to this principle. Therefore, if granted, a condition may be placed on the permit to undergo staged clearing of the application area, with revegetation of the cleared area to be completed before the next stage of clearing commences.

Methodology Northcote et al., (1960)
GIS Databases:
- Rainfall, Mean Annual - BOM 30/09/01
- Salinity Risk LM 25m - DOLA 00
- Acid Sulphate Soil risk map, SCP DOE 04/11/04

(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 Kalbarri National Park is situated 1km north of the application area. The proposed clearing of the vegetation under application is not likely to impact on the environmental values of the conservation reserve due to the habitat being well represented in the National Park. Though, given the large size of the application (11.8ha), clearing would cause fragmentation of the vegetation between the northern and southern sides of Kalbarri National Park.

If granted, a condition may be placed on the permit requiring the area to be revegetated with original matter from the site.

Methodology GIS Databases:
- CALM Regional Parks - CALM 12/04/02
- CALM Managed Lands & Waters - CALM 01/07/05

- Proposed National Parks FMP-CALM 19/03/03
- Register of National Estate - EA 28/01/03

(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 falls within the Kalbarri Water Reserve and the Priority 1 Public Drinking Water Source Area. The purpose of the clearing is for gravel extraction. Gravel extraction is an accepted activity in priority 1 areas and can be managed appropriately so as not to compromise water quality objectives (Kalbarri Water Reserve Drinking Water Source Protection Plan, 2006). The groundwater salinity level is mapped as 500-100mg/L, which gives it a low rating.

Given the above, the proposal is not likely to be at variance with this Principle. In addition a condition will be placed on the permit requiring the area to be revegetated with original matter from the site.

Methodology DAFWA (2006)
 Kalbarri Water Reserve Drinking Water Source Protection Plan (2006)
 GIS Databases:
 - Public Drinking Water Sources (PDWSAs) - DOE 09/08/05
 - Rainfall, Mean Annual - BOM 30/09/01

(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**
 DAFWA (2006) advised that 'the Mr 2 sub-system degradation analysis indicates a minimal risk of water logging and flooding. The high infiltration rates of the sandy soils as well as the large proportion of the catchment with dense vegetation remaining reduce the likelihood of water logging or flooding in this area.'

Given the sandy nature of the soils of the application area, it is unlikely that clearing of 19ha of vegetation will cause, or exacerbate, the incidence or intensity of flooding.

Methodology DAFWA (2006)
 GIS Databases:
 - Rainfall, Mean Annual - BOM 30/09/01
 - Topographic Contours, Statewide - DOLA 12/09/02

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

Comments
 The Shire of Northampton has advised that 'there are no planning approvals or requirements by this Council in regards to the Application and with Council being the applicant we support the clearing proposal.'

There is no further requirement for a RIWI Act Licence, Works Approval or EP Act Licence for the area under application.

The area under application falls within an Aboriginal Site of Significance. The proponent will be advised in the covering letter to contact the relevant authorities in relation to their obligations under the Aboriginal Heritage Act 1972.

The Water Corporation advised that they have 'no objection to the Shire continuing the current arrangement to extract gravel from' Crown Reserve 31503 'subject to the considerations outlined in the Drinking Water Source Protection Plan prepared by the Department of Water'.

Methodology Shire of Northampton submission
 Water Corporation submission
 GIS databases:
 - Aboriginal Sites of Significance - DIA 26/04/07

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Extractive Industry	Mechanical Removal	11.8	The assessable criteria have been addressed with the follow outcomes: Principle (a) is at variance, principles (b) and (g) maybe at variance and all other principles not likely to be at variance.	

5. References

- Biodiversity Co-ordination Section DEC (2006). Department of Environment and Conservation. Western Australian Government.
- DAFWA (2006). Land degradation assessment report. Office of Commissioner of Soil and Land Conservation, Department of Agriculture, Western Australian Government. DEC TRIM Ref: DOC2017
- 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.
- Kalbarri Water Reserve Drinking Water Source Protection Plan (2006). Department of Water. Western Australian Government June 2006
- 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.
- Register of National Estate (2007). Australian Government. Site on 12 November 2007 at www.environment.gov.au
- Shepherd, D.P. (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 (2007) Department of Environment and Conservation (DEC), Western Australia. DEC TRIM ref DOC40878.
- Site Visit Flora Conservation Officer (2007). Department of Environment and Conservation. Western Australian Government. DEC TRIM Ref: DOC7828
- Submission from the Shire of Northampton (2007). DEC TRIM Ref: DOC37652
- Water Corporation submission. Water Corporation of Western Australia. DEC TRIM Ref: DOC34889

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)

