



1. Application details

1.1. Permit application details

Permit application No.: 1164/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Jennifer Joan and Avenarius John Borger

1.3. Property details

Property: LOT 20 ON PLAN 3832 (Lot No. 20 YANDANOOKA MELARA YANDANOOKA 6522)

Local Government Area: Shire Of Mingenew

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
28		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 354: Shrublands; jam and Acacia rostellifera (+ hakea) scrub with scattered York gum.	The proposal consists of 28ha of a 395ha property, 90ha of which is currently cleared. The property has been grazed in the past and as a result some of the vegetation is in poor health with no understorey present. The vegetation comprises mainly of low open woodland and Acacia shrubland. The dominant species on the property include Acacia tetragonaphylla, York gum, Acacia acuminata, Hakea recurve and Eucalyptus camaldulensis (DAFWA, 2006).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The description of the vegetation under application was obtained after a site visit to the property on Wednesday 29th March 2006 and from the Land Degradation and Assessment Report conducted by the Department of Agriculture and Food (DAFWA, 2006).
Beard vegetation association 420: Shrublands; bowgada and jam scrub. (Hopkins et al. 2001, Shepherd et al. 2001).			

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 area under application contains substantial areas of native vegetation, comprising mainly of low open woodland and Acacia shrubland. The dominant species on the property include Acacia tetragonaphylla, Acacia acuminata, Hakea recurve and Eucalyptus camaldulensis (DAFWA, 2006). The area has been heavily grazed in the past with the vegetation structure significantly altered through disturbance. The high level of disturbance and weed invasion (Site visit, 2006) suggests that the original biodiversity has been significantly compromised and does not represent an area of high biological diversity. Therefore this proposal is unlikely to be at variance with this Principle.
Methodology	Site visit (29th March 2006). DAFWA (2006). GIS Databases: - Interim Biogeographic Regionalisation of Australia - EA 18/10/00.

(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 under application has been heavily grazed in the past with the vegetation structure significantly altered through disturbance. In addition the proposal does not provide any connectivity to larger tracts of vegetation. It was also noted on the site visit the significant presence of weeds in the heavily grazed areas. Given the disturbed state of the vegetation, it is unlikely that the area under application will provide a significant habitat for fauna. Therefore this proposal is unlikely to be at variance with this Principle.

Methodology Site visit (2006).

(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 3 records of Declared Rare Flora (DRF) and 1 record of Priority Flora within a 10km radius of the area under application. There are two known records of the Declared Rare *Schoenia filifolia* occurring within 10km from the area under application. It is known to occur on pale yellow to grey brown clay and on swampy flats and the tops of breakaways (CALM Florabase, 2006). DAFWA advised that the soils on the property were found to be shallow loams and gravelly loams. As the soil types are inconsistent, it is unlikely that the Declared Rare *Schoenia filifolia* will occur within the area under application.

There is one record of the Declared Rare *Wurmbea tubulosa*, which is known to occur on clay, loam soils within river banks and seasonally wet places (CALM Florabase, 2006). It is therefore likely that the Declared Rare *Wurmbea tubulosa* can occur within the proposed dam site areas within the application. However, the area under application has been heavily grazed in the past and the vegetation structure has been significantly altered.

Given the previous disturbance within the area under application it is unlikely that this proposal is at variance with this Principle.

Methodology CALM Florabase (2006).
DAFWA (2006)
GIS Databases:
- Declared Rare and Priority Flora list - CALM 01/07/05
- Soils Statewide - DA 11/99

(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 records of Threatened Ecological Communities (TEC) within or surrounding the area under application. The property has been grazed in the past and as a result some of the vegetation is in poor health with no understorey present. It is therefore unlikely that the vegetation under application would represent a Threatened Ecological Community. This proposal, is therefore unlikely to be at variance with this Principle.

Methodology Site visit (2006)
GIS Databases:
- Threatened Ecological Communities - CALM 12/04/05

(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 may be at variance to this Principle

The vegetation proposed to be cleared is part of Beard vegetation association 354 (Hopkins et al. 2001). There is approximately 5.7% of this association remaining (Shepherd et al. 2001). In addition the Shire of Mingenew and the Avon Wheatbelt Bioregion have 6.6% and 15.4% of native vegetation remaining respectively within the intensive agricultural area.

The proposed clearing also lies within the agricultural zone of EPA position statement No. 2. The EPA do not support the further reduction in native vegetation through clearing for agriculture and support active management by landholders to maintain environmental values of remaining vegetation.

The vegetation under application is in good condition and therefore maybe at variance to this principle.

To mitigate any potential impacts of the clearing of remnant vegetation, the proposed clearing will be carried out in accordance with a condition imposed on the permit requiring the revegetation of an equivalent area to that cleared, addressing the loss of vegetation within a highly cleared landscape.

	Pre-European Reserves/CALM- area (ha)	Current extent (ha)	Remaining %*	Conservation status**	managed land,
%					
IBRA Bioregion y Avon Wheatbelt	9,517,117	1,468,711	15.4	Vulnerable	Not available
Shire - Mingenew	194,452***	12,854***	6.6	Endangered	Not available
Beard veg type - 354	91,923	5,274	5.7	Endangered	12.1
Beard veg type - 420	859,654	829,300	96.5	Least concern	8.2

* (Shepherd et al. 2001)

** (Department of Natural Resources and Environment 2002)

*** Area within intensive agricultural area

Methodology Shepherd et al, 2001.
Hopkins et al, 2001.
Department of Natural Resources and Environment, 2002
EPA (2000)
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 may be at variance to this Principle

The areas proposed to be cleared fall within the Irwin River catchment and contain a number of minor non-perennial watercourses. Two dam sites are proposed to be built within two minor non-perennial watercourses, which require the removal of approximately 8ha of riparian vegetation. The vegetation structure within the riparian zone has been significantly altered by grazing pressure but still retains the ability to stabilise the banks of the watercourses. Therefore this proposal may be at variance with this Principle.

Methodology Site Visit (2006)
GIS Databases:
- Hydrography, linear - DoE 01/02/04
- Hydrographic Catchments - Catchments - DoE 23/03/05

(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

DAFWA Advice (2006.a) indicates that the two dams sites proposed to be cleared are in creek lines situated in steeply incised valleys and slopes of upto 35% occur either side of the valley depressions. The proposed area to be cleared for horticulture occurs on gentle to moderate slopes ranging from 4 to 5%. Soils on the property were found to be shallow loams and gravely loams, with zero percent salinity of the Mullingarra Soil landscape unit present.

In relation to the two dams sites DAFWA advised that earthworks and removal of trees in these areas may be a degradation hazard given the shallow rocks throughout the area and the steep slopes of the creek valleys.

Based on this advice and given the small area proposed to be cleared in relation to the large amount of vegetation on the property it is unlikely that the proposed clearing will create a significant risk of land degradation.

Methodology DAFWA (2006.a).

(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

No conservation areas or reserves have been identified within a 10km radius of the proposal. Therefore this proposal is not at variance to this principle.

Methodology GIS Databases:
- CALM Regional Parks - CALM 12/04/02
- WRC Estate - DoE 09/04

- 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 Irwin River catchment and has an average annual rainfall of 500mm. In addition the proposal does not impact on any Public Drinking Water Source Areas.

The local area is situated above a fractured rock aquifer, such that ground water quality is generally poor. There are also problems with rising water tables throughout the region of Mingenew down past Watheroo. (DoW, 2006.a). The catchment is well vegetated, with no expression of salinity and the depth to groundwater is probably 20 to 30m. (DAFWA, 2006.b)

DAFWA (2006.a) advise that it is unlikely that the clearing of 28ha of native vegetation on this land will contribute to groundwater rise and salinity as the property is high in the landscape and well drained.

Therefore this proposal is unlikely to be at variance with this principle.

Methodology DAFWA (2006.a).
DAFWA (2006.b).
DoW (2006.a).
GIS Databases:

- PDWSA Protection Zones - DOE 07/01/04
- Public Drinking Water Sources (PDWSAs) - DOE 09/08/05
- Hydrographic Catchments - Catchments - DOE 23/03/05
- Hydrography, linear - DoE 01/02/04
- 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 at variance to this Principle

DAFWA (2006) advise that the property is high in the landscape and well drained. Flooding impacts are unlikely to occur as a result of the proposed clearing due to its size and location. The property is located at an elevation between 200-260 metres. It is considered that the removal of vegetation from the site would have no impact on peak flood height of duration.

Methodology DAFWA (2006).

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

Comments

The Shire of Mingenew advised that Council determined that approval be granted to clear 28ha of land for the purpose of cropping at Lot 20 on Plan 3832 and Lot 79 on Plan 226853 Melara Road Yandanooka.

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

DoW advice indicates that the watercourse is not within a proclaimed surface water catchment, as such the construction of the dam does not require a permit. However, under the RIWI Act it is an offence to diminish the flow of the watercourse - ie. the dams must be constructed to have the ability to bypass low flows to the watercourse. (DoW, 2006.b)

Futher DoW advised that to ensure that environmental flows are maintained to the downstream environment, including vegetation, the size of the dams should not exceed the amount of runoff that would be expected in average year. Calculations undertaken by DoW on the proposed surface area of the two proposed dams indicates that they are in excess of the average annual runoff / volume expected in the sub-catchments. DoW does not expect the dams at the proposed size to fill in a normal year, or in a high rainfall year and recommend smaller dams (DoW, 2006.b). The proponent will be advised of the information in relation to the dams capacities in the covering letter to the permit to clear.

DoW advice also indicated that any water that is captured would already be mildly to moderately saline and that the longer it is stored the greater evaporation will occur and the more saline the water will become. Over time possibly leading to a significant concentration of salt and saline water in the area around the proposed dams. In relation to groundwater DoW advised that putting in a large standing water body into an area is likely to exacerbate and local problems with rising water tables (DoW, 2006.a). DAFWA advice in relation to the capture of surface water and rising groundwater indicated that surface runoff proposed to be harvested from the catchment will be fresh, rather than brackish or saline. The catchment is well vegetated with no expression of

salinity and the depth to groundwater is probably 20 to 30m. There is unlikely to be any connection between the proposed dams and saline groundwater. It is expected that rainfall is likely to be around 4mg/L TSS, so this is unlikely to be a significant salt source or pose serious risk of evapo-concentration (DAFWA, 2006.b).

Two Environmental Impact Assessments (EIA) have been conducted over the area under application. Neither of the Environmental Impact Assessments conducted relate to this proposal and therefore does not have any impact on this application.

There is a Native Title Claim over the area under application, however as the property is freehold land Native Title has been extinguished.

Methodology

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Miscellaneous	Mechanical Removal	28	Grant	It is recommended this permit is granted with a condition to revegetate an equivalent area.

5. References

- CALM Florabase (2006) <http://www.calm.wa.gov.au/florabase/index.html>.
- DAFWA (2006.a) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM Ref CRN219075.
- DAFWA (2006.b) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM Ref DOC5834.
- 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.
- DoW (2006.a) Department of Water advice. DoE TRIM Ref DOC5830.
- DoW (2006.b) Department of Water advice. DoE TRIM Ref DOC5831.
- 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.
- 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
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)