



1. Application details

1.1. Permit application details

Permit application No.: 82/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: David M & Helen M Nixon

1.3. Property details

Property: LOT 12423 ON PLAN 164914 (MANJIMUP (S) 0)

Local Government Area: Shire Of Manjimup

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
22.2		Cutting	Grazing & Pasture

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
<p>Vegetation consists of:</p> <p>Beard Unit 3 - Medium forest; jarrah-marri</p> <p>Beard Unit 1144 - Tall forest; karri & marri (Corymbia calophylla)</p> <p>Mattiske Vegetation types:</p> <p>A Angove - Open forest of Eucalyptus marginata subsp. marginata-Banksia ilicifolia-Nuytsia floribunda with some Eucalyptus diversicolor on gently sloping sandy terrain in hyperhumid and perhumid zones.</p> <p>COB Collis - Open forest of Eucalyptus marginata subsp. marginata-Banksia ilicifolia-Nuytsia floribunda with some Eucalyptus diversicolor on gently sloping sandy terrain in hyperhumid and perhumid zones.</p> <p>Coy1 Collis 1 - Tall open forest to woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Banksia grandis-Allocasuarina fraseriana on low hills and with Allocasuarina decussata on slopes in perhumid and humid zones.</p> <p>S3 Shallow Valleys - Low woodland of Eucalyptus</p>	<p>The vegetation is mainly tea tree regrowth. Other indigenous vegetation consists of Karri, Marri and some Jarrah. The areas to be cleared consist of regrowth, greater than 3 years of age, indigenous vegetation and riparian vegetation.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>Belinda Walker (DoE) and Trish Fleming (DoE) undertook a site visit on the 7th of May 2004. The proponent did not accompany the officers.</p>

marginata subsp.
marginata-Corymbia
calophylla on slopes, and
mosaic of low open
woodland of Melaleuca
preissiana-Banksia
littoralis , closed heaths
and sedgeland of
Cyperaceae spp. on valley
floors with impeded
drainage in hyperhumid
and perhumid zones.

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**

There are four Mattiske vegetation types (and two Beard Units) within the area under application and consists of both riparian and open forest vegetation. Additionally, there are two Specially Protected and five Priority Listed fauna species and eight Priority Listed flora species in the local area (10km radius).

The area under application is considered to be in Very Good condition (DoE site visit 2004 - Keighery 1994).

The area under application is considered to be an area of high localised biodiversity due to the diversity of vegetation types and the presence of the above mentioned flora and fauna in the local area in conjunction with the very good condition of the vegetation.

Methodology CALM report (2004)
Keighery (1994)
Shepherd et al. 2001
Site visit (2004).
GIS databases:

- CALM's Threatened Flora Data Management System - DEFL
- Declared Rare and Priority Flora List - CALM 13/08/03
- Declared Rare and Priority Flora List - CALM 13/08/03
- Herbarium Specimen Collection Database - WA Herb
- Mattiske Vegetation - CALM 24/3/98
- Pre European Vegetation - DA 01/01.

(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**

CALM report:

'There is a low-medium probability of the proposed clearing to be at variance with Principle B if suitable steps are taken to protect riparian vegetation on the property.'

'Two Specially Protected species occur within the local area (10km radius): Quokka (*Setonix brachyurus*) S1, Baudin's Black-Cockatoo (*Calyptorhynchus baudinii*) S1.'

'There are five Priority Listed fauna in the local area: Austrorope poultoni, P1, Little Bittern (*Ixobrychus minutus*), P4 Forest Red-Tailed Black-Cockatoo (*Calyptorhynchus banksii naso*) P3, Western Brush Wallaby (*Macropus irma*) P4 and Quenda (*Isodon obesulus fusciventer*) P5.'

'While not being a roosting habitat as such, the proposed vegetation has the potential to provide foraging sites for the Baudin's Black-Cockatoo (*Calyptorhynchus baudinii*) and Forest Red-Tailed Black-Cockatoo (*Calyptorhynchus banksii naso*). In addition, Quenda favour intact riparian zones and have been known to occur in close proximity to the proposed clearing. It is recommended that if the riparian vegetation is in a suitable condition, that it be fenced off and protected as a habitat for the aforementioned fauna.'

Methodology GIS database:
- Threatened and Priority fauna - CALM (CALM 2004)*.

*This citation signifies that we do not have access to this database and that our use of it is through the CALM advice provided.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, significant flora.

Comments Proposal may be at variance to this Principle

CALM report:

'Given the number of Priority listed flora recorded from the local area, there is a low-medium probability of Priority flora (and/or Declare Rare) occurring with the vegetation under assessment.'

Species that occur in the local area (10km radius) on the same broad vegetation type as the area under application include:

- 1 specimen of P3, *Asplenium aethiopicum*,
- 1 specimen of P3 *Lomandra ordii* (9.5km south south west of proposed clearing)
- 1 specimen of P3 *Sphaerolobium pubescens*
- 1 specimen of P3 *Sphenotoma parviflorum*
- 1 specimen of P4 *Gonocarpus intricatus*,
- 3 specimens of P4, *Actinotus* sp (3km east of proposed clearing).

Methodology CALM report (2004).

GIS databases:

- Declared Rare and Priority Flora List - CALM 13/08/03
- Herbarium Specimen Collection Database - CALM (CALM 2004)*
- Threatened Flora Data Management System - CALM (CALM 2004)*.

*This citation signifies that we do not have access to this database and that our use of it is through the CALM advice provided.

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a significant ecological community.

Comments Proposal is not likely to be at variance to this Principle

There were no Threatened Ecological Communities or Threatened Plant Communities recorded within the local area (10km radius).

Methodology CALM report (2004).

GIS database:

- Threatened Ecological Communities - CALM 15/7/03.

(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 Bioregion, Shire and vegetation types within the area under application have high vegetation representation.

	Pre - European (ha)*	Current Extent (ha)*	Remaining (%)*	Conservation** status	% In reserves/CALM managed land
IBRA Bioregion -Warren***	836 270	724 014	86.6	Least Concern	
Shire- Manjimup	705 670	591 748	83.9	Least Concern	
Beard Unit 3	3 046 385	2 197 837	72.1	Least Concern	67.9
Beard Unit 1144	201 257	140 235	69.7	Least Concern	75.4
Mattiske Consulting					
A Angove	397 028	355 374	89.5	Least Concern	
COB Collis	218 419	187 148	85.7	Least Concern	
Coy1 Collis 1	228 751	192 244	84	Least Concern	
S3 Shallow Valley	62 306	54 949	88.2	Least Concern	

* (Shepherd et al. 2001)

** (Department of Natural Resources and Environment 2002)

*** Within the Intensive Landuse Zone

The property has approximately 62.5 hectares (57%) of native vegetation remaining, and if implemented, this clearing proposal will leave 41% remaining (44.5ha). There is approximately 75% of vegetation remaining in a 10km radius.

Methodology Hopkins et al. (2001)

Shepherd et al. 2001.

GIS databases:

- Interim Biogeographic Regionalisation of Australia - EM 18/10/00
- Matiske Vegetation - CALM 23/3/98
- Pre European Vegetation - DA 01/01.

(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 at variance to this Principle

There are two minor perennial watercourses (1st order) shown on DoE maps within the area under application. The proposed clearing on the southern watercourse includes two fence crossings, these are exempt under current legislation. A large dam is also situated over this watercourse. The northern watercourse is not within the area applied to be cleared.

These watercourse require a vegetated buffer of 30m on either side (WRC 1996). Currently, the southern watercourse has an approximate average of 20m of vegetation remaining on each side down stream of the dam. The applicant has agreed to leave a 30m buffer around the dam and upstream of the dam. These watercourses flow into the Warren River.

Within the local area (10km radius) several Geomorphic wetlands occur and are situated, 6.9km to the south west of the area under application. These include seven Paluslope wetlands, two Palusplain wetlands and one sumpland.

Methodology DoE site visit (2004)
WRC (1996).
GIS database:
- Geomorphic Wetlands, Augusta to Walpole - DoE 18/6/03
- Hydrography Linear - DoE 1/2/04.

(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

DAWA advice

Water erosion:

'Average gradients across the proposed areas of clearing were calculated using 5 metre contours. The steepest slopes on the property (13%) occur in the southern area under application. Slopes across the other areas to be cleared are very gentle to gentle and average 5 to 10%. Given these slopes, clearing to establish pasture is unlikely to cause water erosion although running access tracks for stock and machinery down slope should be avoided. Stocking should be managed to avoid overgrazing and maintain ground cover.'

Waterlogging

'Waterlogging hazard is high to very high on wet soils and semi-wet soils along the watercourse running through the property'. This is the southern watercourse, which has little remaining riparian vegetation. 'Low-lying parts of western area close to the watercourse are at risk of increased waterlogging. Retaining vegetation on either side of the proposed stock crossings should minimise localised waterlogging.'

The applicants has agreed to a 30m buffer on the dam and upstream of the dam. They have also agreed to withdraw the area to the west of the southern watercourse.

Wind erosion

'High wind erosion hazard is associated with pale deep sands, sandy surfaced semi-wet soils and grey deep sandy duplex soils which most commonly occur in the Angove (AN) and Minor Valleys S3 subsystems (areas under application to the south east and west along the southern watercourse). Wind erosion from these soils can be managed by maintaining ground cover at 50% or more by using careful stock management.'

Methodology DAWA report (2004).

(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

CALM report:

'There are two CALM managed areas in the vicinity of the proposed clearing. These are the Warren and Gardner State Forest.'

Warren State Forest borders property (and the area under application) on northern, eastern and southern boundaries. The Gardner State Forest is 5.7km south of the proposed clearing and has indirect (via Warren State Forest and private properties) vegetated links to the area under application.

There are three Registered National Estates in the local area (10km radius):

- The Jane area (natural) is 245m east of the proposed clearing and is linked via vegetation through State forest.
- The Shannon area is 9.3km north east of the proposed clearing and is linked via vegetation through State forest.
- The Crowea area is 4.5km west of the proposed clearing and is linked via remanent vegetation through privately owned properties.

The area under application is part of an east west linkage to the Registered National Estates in the vicinity (Jane area and Crowea area) through state forest to the east and private properties to the west. Vegetated linkages to the Crowea area in the west is via 1.9km of private properties including riparian vegetation along a major watercourse.

The applicants have agreed to 20m to 30m buffers on both watercourses on the property and have also reduced the size of the area first proposed to be cleared this has contributed to retaining linkages to the surrounding state forests via the retention of riparian vegetation and wider corridors.

Methodology CALM report (2004).
GIS database:
- CALM Managed Lands and Waters - CALM 1/06/04
- Hydrography Linear - DoE 1/2/04
- 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 is within the Warren River Water Reserve a controlled catchment under the CAWS Act.

Hydrogeological advice:

'The proposed clearing will mobilise salt stores into groundwater. This is not acceptable as the area has a low salinity tributary of the salt-affected Warren River Water Resource Recovery Catchment.'

DAWA report:

'The main land and water hazard associated with clearing and establishing pasture on this property is eutrophication. There is a very high to extreme risk of nutrient loss and eutrophication from poor deep sands, wet and semi-wet soils on and close to the southern watercourse (this includes the areas under application on this watercourse).'

'To minimise this hazard buffer strips at least 10 metres wide on which no fertiliser is applied should be left around the watercourses (Tille et al 2001). It is recommended that 10 metre wide strips of vegetation be retained between the dam and the area to the east of the dam and along the southern watercourse.'

'Soil testing is also recommended prior to fertilising newly established pasture to be cleared to avoid adding excessive nutrients.'

The applicants have agreed to 20m to 30m buffers on both watercourses on the property and have also reduced the size of the area first proposed to be cleared. This meets the 10m buffer recommended by DAWA. It is also consistent with WRC Guidelines 1996 for CAWS Catchments.

Methodology - DAWA report (2004).
- Hydrogeological advice, R. Smith, Supervising Hydrogeologist, DoE, pers. comm. 2004.
- Country Areas Water Supply Act 1947
- Water and Rivers Commission, Policy and Guidelines: Granting of Licences to Clear Indigenous Vegetation in Catchments Subject to Clearing Control Legislation, March 1996

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.

Comments Proposal is not at variance to this Principle

Due to scale, flooding impacts are unlikely to occur as a result of the proposed clearing.

Methodology Hydrogeological advice, R. Smith, Supervising Hydrogeologist, DoE, pers. comm. 2004.

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

Comments

Methodology

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Grazing & Pasture	Cutting	22.2	Grant	<p>Recommended that the proposal is granted for 15.15ha.</p> <p>Applicant has agreed to withdraw an area of 3.2ha that was near the watercourse and presented a water logging issue. They have also agreed to retain a 30m buffer on the eastern end of the property and around the current dam.</p> <p>The applicant will be putting in two fencelines that cross the southern watercourse. This is an exempt purpose.</p>

5. References

- CALM Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref XXXXX.
- DAWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref XXXXX.
- 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.
- 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, BJ (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.
- WRC (1996) Policy and Guidelines: Granting of Licences to Clear Indigenous Vegetation in Catchments Subject to Clearing Control Legislation. Water and Rivers Commission, Western Australia.