



1. Application details

1.1. Permit application details

Permit application No.: 2880/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Kenneth J & Krystyn Sanders

1.3. Property details

Property: LOT 11153 ON PLAN 153290 (Lot No. 11153 CHARLIE CROWEA 6258)
 LOT 11153 ON PLAN 153290 (Lot No. 11153 CHARLIE CROWEA 6258)
 Local Government Area: Shire Of Manjimup
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
10.4		Mechanical Removal	Timber Harvesting

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
Mattiske Vegetation Complex: CROWEA (CRy) Tall open forest of <i>Corymbia calophylla</i> (Marri) with mixture of <i>Eucalyptus marginata</i> subsp. <i>marginata</i> (Jarrah) and <i>Eucalyptus diversicolor</i> (Karri) on uplands in hyperhumid and perhumid zones.	Proposal is to thin 10.4 ha of karri regrowth for silvicultural thinning. This activity will involve scrub rolling the understorey for access, movement of machinery and the effects of falling trees.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The karri forest consists of high quality regrowth stands resulting from agricultural clearing and subsequent abandonment in the 1930s. The regrowth, apart from that in the stream zone on the eastern side of the location, was previously thinned in 1989 and 1995. As a consequence most of the remaining trees are in dominant or co-dominant strata and of good commercial quality.
Beard Vegetation Association: 1144 - Tall forest; karri and marri.			The co-dominant height of the regrowth ranges from 40 to 45 m. Basal area ranges from 20-28 m ² /ha in the thinned stands. Regrowth trees range in diameter from 50-80 cm dbhob.
Middle storey is comprised of <i>Acacia pentadenia</i> and <i>Trymalium firibundum</i>			The understorey is dense, to a height of 4m and there are heavy fuel loads throughout. The area has not been burnt for many years (more than 20 years) and the existing understorey has regenerated since the thinning operation in 1995. There is no evidence of weed invasion in the areas proposed for harvesting (Bradshaw Ref TRIM DOC 71589; DEC Regional Advice Report TRIM Ref DOC72114).

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 proposed to be thinned consists of high quality regrowth karri (*Eucalyptus diversicolor*) trees. The area was historically cleared for agriculture and abandoned in the 1930's. The proposal is to thin 10.4ha out of 13ha of regrowth forest.

 The regrowth (excluding that in the stream zone on the eastern side of the location) was previously thinned in 1989 and 1995. As a consequence most of the remaining trees are in dominant or co-dominant strata. No habitat (veteran) trees (containing hollows) remain.

 The understorey is dense, to a height of 4m, with heavy fuel loads throughout. The area has not been burnt for

many years (probably more than 50 years) and the existing understorey has regenerated since the thinning operation in 1995. There is no evidence of weed invasion in the areas proposed for thinning. (Bradshaw 2008, DEC 2008)

There is a high amount of native vegetation remaining (approximately 81%) within the local area (10km radius) and the vegetation complexes are also well represented in nearby conservation estate. The proposed thinning is unlikely to affect biological diversity within the local area.

Methodology Bradshaw (2008)
Keighery (1994)
DEC (2008)
GIS database:
- Northcliffe 1.4m Orthomosaic - Landgate 2000
- CALM Managed Lands and Waters - CALM 01/06/05
- SAC Biodatasets - accessed 16 Dec 08
- Mattiske Vegetation (01/03/1998)
- Hedde Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Beard

(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 clearing proposal is to thin 10.4ha out of 13ha of regrowth forest. This area consists of high quality regrowth karri (Eucalyptus diversicolor) trees. The area was historically cleared for agriculture and abandoned in the 1930's. No habitat trees have been observed within the area under application (Bradshaw 2008; DEC 2008).

Several populations of quokka have been recorded approximately 2.5-4km southwest, and one population of water-rat 4km south of the area proposed for thinning.

There is a large amount of native vegetation remaining (approximately 85%) within the local area. Aerial photography (Northcliffe 1.4m Orthomosaic) indicates that adequate vegetation and associated corridors within the area under application (and adjoining land parcels) will remain post thinning. The proposed thinning is unlikely to affect fauna habitat within the local area.

To limit/mitigate any impact the thinning activities may have on the remaining habitat, a vegetation management condition is recommended on the permit.

Methodology Bradshaw (2008)
DEC (2008)
Keighery (1994)
GIS database:
- Northcliffe 1.4m Orthomosaic - Landgate 2000
- Mattiske Vegetation (01/03/1998)
- SAC Biodatasets - accessed 16 Dec 08
- Hedde Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
- Beard Vegetation

(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

No rare flora has been recorded within the local area (10km radius) of the proposed clearing.

Several populations of Actinotus sp. Walpole, a Priority 3 species, are located between 3.5-6km southeast of the area proposed to be thinned. The area under application and that of the Priority 3 species share the same soil type but differing vegetation complexes, therefore it is unlikely the flora species occurs within the area to be thinned.

Methodology Bradshaw (2008)
DEC (2008)
GIS databases:
- DEFL - 28/08/08
- WAHERB October 2008
- Northcliffe 1.4m Orthomosaic - Landgate 2000

- Pre European Vegetation - DA 01/01
- Soils, Statewide DA 11/99
- Mattiske Vegetation (01/03/1998)
- Hedde Vegetation Complexes - DEP 22/06/95

(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 Threatened Ecological Communities recorded within the local area or within the area proposed to be thinned.

Methodology GIS database
-TEC 21/10/08

(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 likely to be at variance to this Principle

The area under application is located in the Warren Bioregion in the Shire of Manjimup. The extent of native vegetation in these areas is 80.8% and 85.4% respectively (Shepherd et al. 2007).

The vegetation of the area applied to be clear is a component of Mattiske Crowea (CRy) (Havel 2002) of which there is 70.0% of the pre-European extent remaining.

The vegetation of the area under application is a component of Beard Unit 1144 (Hopkins et al. 2001) of which there is 81% (Shepherd et al. 2007) of the pre-European extent remaining.

Due to the high percentage of represented vegetation types remaining, the area proposed to be cleared is not considered to be a remnant within an extensively cleared area.

Methodology Havel (2002)
Hopkins et al. (2001)
Shepherd et al. (2007)
GIS databases:
- Mattiske Vegetation
- Interim Biogeographic Regionalisation of Australia - EM 18/10/00
- Local Government Authorities - DLI 8/07/04
- 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 likely to be at variance to this Principle

There are no EPP Lakes or EPP Areas, RAMSAR wetlands, ANCA wetlands or Geomorphic wetlands found within the local area, nor within the area proposed to be thinned.

There is a minor perennial watercourse located on the eastern side of the property and east of the area to be thinned. This watercourse, and associated 2.3ha of buffering vegetation, is subject to an Agreement to Reserve notice issued under the Soil and Land Conservation Act. This area is not subject to this thinning proposal. To ensure that the area of the ATR is not impacted by the thinning activities, a watercourse management condition is recommended on the permit.

Direct vegetation links exist between the area under application and this minor watercourse. However, it is unlikely the proposed thinning activities would impact this watercourse given that a minimum 30m vegetated buffer will be retained (Bradshaw 2008).

The Warren River is located 3km northwest of the area proposed to be thinned and will not be impacted.

Methodology Bradshaw (2008)
GIS databases:
- ANCA, Wetlands
- EPP Areas
- EPP Lakes
- Geomorphic Wetlands
- Hydrography Linear
- RAMSAR, Wetlands
- Northcliffe 1.4m Orthomosaic - Landgate 2000

(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 area proposed to be thinned has a low salinity risk, a ground water salinity level of 500-1000 mg/L, and is in a low risk area for Acid Sulphate Soils.

Given the proposed activity involves thinning and not full scale clearing and the topography is of low to medium relief, land degradation issues such as soil erosion are unlikely to occur.

Methodology GIS databases:
- Acid Sulfate Soil Risk Map, SCP- Salinity Risk LM 25m
- Groundwater Salinity, Statewide

(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 Warren State Forest surrounds the area proposed to be thinned to the west, east and south. National Park then adjoins these State forest areas, approximately 6kms from the proposed area.

Although the area under application will remain vegetatively linked to local conservation areas to the south, the thinning operations and distance between the proposed area and conservation areas makes it unlikely the proposal would significantly impact on these reserves.

Methodology GIS database:
- CALM Managed Lands and Waters - CALM 1/06/04
- Northcliffe 1.4m Orthomosaic - Landgate 2000

(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 proposed to be thinned is within the Warren River Water Reserve, which is a Public Drinking Source Area and a Zone D CAWS catchment area.

The long term average rainfall is 1200mm with an average evaporation rate of 800mm.

Sufficient vegetation will remain on Location 11153 following thinning, which will exceed the statutory retention requirement of 10% for the CAWS Act. Due to the size of the proposed area under application it is unlikely the thinning would significantly degrade local water quality.

The minor watercourse east of the proposed thinning area will be buffered by a minimum 30m vegetated zone. It is unlikely any degradation (siltation) of this watercourse will occur.

The proposed clearing is therefore not likely to be at variance to this Principle.

Methodology GIS databases:
- CAWSA Part2A clearing control catchment
- Hydrographic Catchments, Catchments
- Public Drinking Water Source Areas (PDWSAs)
- Hydrography

(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

Given the proposed activity involves thinning and not full scale clearing and the topography is of low to medium relief, flooding is unlikely to occur.

Methodology GIS databases:
- Evaporation Isopleths - WRC 29/09/98
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrography, linear - DoW 13/7/06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The area proposed to be cleared is zoned rural in the Town Planning Scheme.

Although not currently known to be infected within *Phytophthora cinnamomi* (or weeds) there is potential for *Phytophthora* to be introduced and/or spread into the site by the movement of machinery. As such a weed and dieback permit condition is recommended should a permit be granted.

A Soil and Land Conservation Act - Agreement to Reserve 2.3ha of native vegetation (associated with a water course) exists in the eastern portion of Lot 11153. The proposed area to be cleared does not encroach upon this portion of land. (TRIM Ref: DOC71019)

Methodology

GIS database:
- Town Planning Scheme Zones

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986. The proposed clearing activity is not likely to be at variance to the clearing Principles.

5. References

- Bradshaw F.J. (2008), Native Forest Management Plan, KJ & K Sanders, Hill Brook Road, Northcliffe (TRIM Ref DOC 71589).
DEC (2008) Warren Regional Advice. Department of Environment and Conservation TRIM Ref DOC72114.
Havel, J.J. and Mattiske Consulting Pty Ltd (2002) Review of management options for poorly represented vegetation complexes, Conservation Commission.
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. (2007). 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.

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)

