



1. Application details

1.1. Permit application details

Permit application No.: 941/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Ian Campbell & Dianne Margaret Broad

1.3. Property details

Property: LOT 4121 ON PLAN 232604 (WONGOONDY 6630)

Local Government Area: Shire Of Mullewa

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
500		Mechanical Removal	Cropping
280		Mechanical Removal	Cropping

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 380: Shrublands; scrub-heath on sandplain (Hopkins et al. 2001, Shepherd et al. 2001).	The area under application is a large block consisting of approximately 500ha, located in the agricultural area of the Shire of Mullewa. The northern area of the block is believed to consist of better quality soils, and was mostly dominated by <i>Allocasuarina campestris</i> , <i>Gyrostenum ramulosus</i> and <i>A. blakelyi</i> . This dominance may have been influenced by an historical churning event that was identified by aerial photography of the area. There was a section that had recently experienced fire; perhaps within 2 years, and here greater plant diversity was evident, demonstrating the regeneration capabilities of the area. As the soil type changed to poorer sands the vegetation changed to incorporate other species including <i>Banksias</i> . A salt crusted depression was also located during the inspection which was colonised by samphire species. Throughout the site all of the areas inspected appeared relatively weed free, even where the remnant lies adjacent to paddocks. Overall the condition of the area was excellent.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The description of the vegetation was obtained both from the site visit and from the Land Degradation Assessment Report provided by the Department of Agriculture. DAWA (2005) Land degradation assessment report. Office of the commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref IN25209. Keighery (1994). Site visit, 7 December 2005.

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

CALM reported that the area under application falls within the Geraldton Hills IBRA subregion which is known to contain both flora and fauna species endemic to the subregion. It was also reported that the Sandplain shrublands of the Burma Road area has been noted as an area of high species and ecosystem diversity, containing diverse flora including a number of endangered and rare species. The area proposed to be cleared is approximately 23km from the Burma Road Nature Reserve, and both areas consist of the same vegetation association. Therefore the area under application may also contain diverse flora.

Additionally the area under application is the largest block of native vegetation within a 15km radius, and given its excellent condition is likely to have a higher level of biological diversity compared to other remaining remnants in the local area. Clearing the area is likely to impact upon local biodiversity values, and therefore may be at variance to this Principle. A revised proposal received from Mr Broad reduced the area to be cleared from 500 to 280 ha. Despite this the biological diversity of the area would still be impacted given that over half of the remnant would be lost. As clearing the area is likely to impact upon local biodiversity values, the proposal is considered to be at variance to this Principle.

Methodology

CALM, 2006.

GIS Databases: Interim Biogeographic Regionalisation of Australia-EA 18/10/00.

Site visit DEC Officer, 2005.

Keighery (1994).

(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 at variance to this Principle

CALM reported that there is only one record of Specially Protected Fauna occurring in the local area within a 10km radius. However this record is dated from 1908. The lack of recent data is considered to be a result of few fauna surveys being conducted in the local area rather than fewer fauna populations per se.

Other fauna that may occur in the area include Major Mitchell's Cockatoo, *Cacatua leadbeateri*, which is listed as a Schedule 4 - Other Specially Protected Fauna in the Wildlife Conservation Notice 2005 of the Wildlife Conservation Act. This species is known to be sporadically distributed across arid and semi-arid Australia, and may occur in sparsely timbered grasslands and shrublands and rocky outcrops (CALM 2006).

In addition the area under application falls within the Geraldton Hills IBRA subregion, that includes the reptile species of *Lerista yuna*, *Cyclodomorphus branchialis* and *Aprasia* sp. nov. aff. *fusca* which are endemic to this subregion, and may be considered significant fauna (CALM 2006).

The increase in land salinisation that may result from the clearing (DAWA 2005) could result in degradation of the remnant vegetation surrounding the waterway that occurs to the north of the property, and reduce its value as habitat (CALM 2006).

The area under application itself is likely to provide habitat for local fauna given its size, excellent condition and as its occurrence in an otherwise predominantly cleared landscape. In considering all of these factors, the proposal is likely to be at variance to this Principle.

The revised proposal from the proponent has reduced the area to be cleared to 280 ha. However, the manner of the clearing would leave 2 remnants that are not directly connected and with a higher edge to area ratio than exists now. Although some vegetation would remain under this new proposal, it is still a reduction in habitat that may be considered significant given its current size, low edge to area ratio, excellent condition and as it is located in a predominantly cleared landscape. The proposal remains at variance to this Principle.

Methodology

CALM, 2006.

Site visit DEC Officer, 2005.

Keighery (1994).

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

Comments

Proposal may be at variance to this Principle

Three species of Declared Rare Flora and seven species of Priority flora have been recorded within the local area within a 10km radius. Of the DRF, *Conostylis dielsii* subsp. *teres* may potentially occur as the vegetation association and soil type of the area under application is similar to that of existing populations. Four of the Priority species; *Tricornye thiniigena* ms, *Scholtzia* sp. Geraldton, *Grevillea candicans* and *Verticordia capillaris*, occur within the same vegetation association and therefore may also be found within the area under application.

The Geraldton Hills IBRA subregion has been reported as being rich and diverse in flora with many sandplain

genera having a high degree of endemism, such as the *Scolzia* spp. which have over 16 taxa endemic to the subregion. The Sandplain shrublands of the Burma Road area has been noted as an area of high species and ecosystem diversity, containing diverse flora including a number of endangered and rare species. The area proposed to be cleared is approximately 23km from the Burma Road Nature Reserve, and both areas consist of the same vegetation association. Therefore the area under application may also contain diverse flora.

CALM recommends that a flora survey of the area be undertaken to determine if Priority or Declared Rare Flora occur, as based on current evidence this may be likely. This has not been requested of the proponents at this time as the clearing application will be recommended to be refused. However should the recommendation to refuse be dismissed a flora survey would be required.

A change to the proposal has reduced the area under application, but there has been no additional information provided specifically in relation to the flora of the site. As such the information and recommendations given above are still valid and the proposal remains as may be at variance to this Principle.

Methodology CALM, 2006.
GIS Databases: Declared Rare and Priority Flora list - CALM 01/07/05.
Site visit DEC Officer, 2005.

(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 within the area under application or in the local area therefore this proposal is not likely to be at variance to this Principle.

Methodology CALM, 2006.
GIS Databases: Threatened Ecological Communities - CALM 12/4/05

(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 seriously at variance to this Principle**
There is 26.8% pre-European vegetation remaining in the Geraldton Sandplains Bioregion, 7.2% in the Shire of Mullewa, and 52.3% in Beard vegetation association 380.

Although the conservation status of vegetation association 380 is described as of 'least concern', the area under application falls within the Shire of Mullewa, which has only 7.2% of its original vegetation cover remaining. The area is the largest remnant of vegetation that occurs within a 15km radius (CALM 2006) indicating that the surrounding landscape is predominantly cleared.

The area falls within the intensive landuse zone (ILZ), and is therefore subject to the EPA's Position Statement No. 2, Environmental Protection of Native Vegetation in Western Australia. This Position Statement expresses that further clearing within the ILZ for agricultural purposes should not be considered, unless the areas are small and alternative measures to protect biodiversity are put into place.

Due to the size of the area, its location and excellent condition, it is considered to represent a significant remnant in an area that has been extensively cleared. Therefore the proposal is at variance to this Principle.

A change to the proposal has reduced the area to be cleared, however in a manner that would leave 2 remnants of vegetation not connected and that would each have a high edge to area ratio. The 280 ha under application is a significant remnant in its own right, but is even more so given that it is a part of a much larger remnant that would be fragmented. Therefore the proposal remains at seriously at variance to this Principle.

Methodology 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
Shepherd et al, 2001.
Department of Natural Resources and Environment, 2002.
Keighery (1994).

(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 at variance to this Principle**
The DAFWA report notes that 'the site is on undulating sandplain with mainly internal drainage resulting in small damplands and seasonally inundated wetlands within the remnant itself

The proposed clearing is therefore growing in association with a wetland and is at variance to this principle.

Methodology DAFWA 2005.

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

Comments Proposal is seriously at variance to this Principle

Mapped groundwater salinity within the area proposed to be cleared is 7,000 to 14,000 mg/L.

DAFWA advised that the site is on undulating sandplain with mainly internal drainage resulting in small damplands and seasonally inundated wetlands within the remnant itself.

The clearing is 'likely to increase the risk of groundwater recharge and add to the already obvious problem of salt scalds appearing in depressions with the vegetation under assessment'.

Depressions occur within the remnant and these correspond to areas at risk of developing salinity. Recent deaths of *Melaleuca uncinata* and a good recruitment of samphire species was noted in the depressions within the remnant indicating that evaporative concentrations of salts from groundwater is increasing and conditions are favouring samphire conditions over the *Melaleucas*.

The report concludes that clearing 500 hectares of the affected land is likely to increase land degradation in the form of land salinisation and therefore the proposed clearing is seriously at variance to this principle.

The reduction of the area under application has not changed the risk of land degradation and the proposal is still considered to be seriously at variance to this Principle (DAFWA 2006).

Methodology DAFWA 2005.
DAFWA 2006.
Site visit DEC Officer, 2005
GIS Database:
- Groundwater Salinity Statewide - 22/02/00

(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 at variance to this Principle

It is noted that the area that is proposed to be cleared represents the largest block of native vegetation within a 15km radius. Wongoondy Nature Reserve 21140, is situated approximately 3.9 kilometres east-south-east of the area proposed to be cleared.

There is a registered Department of Agriculture WA conservation covenant located approximately 9.6 kilometres east of the area proposed to be cleared.

The area that is proposed to be cleared is likely to offer a variety of habitats for native fauna and flora, and act as a 'stepping stone' for fauna moving between local reserves and areas of remnant vegetation. Any pre-existing connectivity with nearby conservation areas, such as Wongoondy Nature Reserve will be significantly impacted if this proposal is approved.

The proposed clearing is therefore considered to be at variance to this principle.

Methodology CALM, 2006.
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
Shepherd et al, 2001.

(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 at variance to this Principle

The area under application is in the Greenough River catchment and does not include any Public Drinking Water Source Areas (PDWSA).

DAFWA reported that there is no hydrogeological information specific to the area under application available. However, as the site consists of undulating sandplain, the area would mostly drain internally with subsurface

drainage likely to be towards the north into Kockatea Gully (DAFWA 2005). The internal drainage of the area has resulted in the existing salt scald that was found during the site visit. With the clearing likely to increase groundwater recharge, the occurrence of such salt scalds would also increase thereby affecting the quality of surface water. In addition a waterway occurs to the north of the area under application, in the direction that subsurface drainage is likely to occur. With the expected increases in groundwater recharge, the proposal may also affect this waterway that is at risk of salinity.

Given the likelihood of land salinisation should the proposal go ahead, the quality of surface water will be affected, and potentially water quality off-site could also be affected. Therefore the proposal is at variance to this Principle.

Methodology DAFWA 2005.
GIS Databases:
- Public Drinking Water Sources (PDWSAs) - DOE 09/08/05
- Hydrographic Catchments - Catchments - DOE 23/03/05
- Salinity Risk LM 25m - DOLA 00

(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**
The vegetation under application lies in an extensively cleared Bioregion in an area that experiences 400mm of rainfall annually. The area does not fall within a designated floodway or flood fringe zone (Waters and Rivers Commission, 2000) and is therefore unlikely to lead to an incremental increase in peak flood height or duration.

Methodology GIS Databases - Rainfall, Mean Annual - BOM 30/09/01, Interim Biogeographic Regionalisation of Australia - EA 18/10/00.
Waters and Rivers Commission, 2000.

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

Comments

A submission was received from the Shire of Mullewa indicating that they had no objections to the proposed clearing.

A public submission was received outlining opposition to the proposed clearing. Concerns were raised that the application may be at variance with Principles (a), (b), (c), (d), (e), (g), (h) and (i) and the submission called for the proposal to be rejected. From the assessment Principles (e) and (g) have been found to be seriously at variance, Principles (a), (b), (f), (h) and (i) have been found to be at variance and Principle (c) may be at variance. The submission was also concerned that the proposal may have affected Threatened Ecological Communities (Principle (d)). However there is no current information that indicates any TECs occur in the area, a conclusion that is supported by biodiversity advice.

A regional DoE team consultation was undertaken and there is no other RIWI Act Licence, Works Approval or EP Act Licence that will affect the area under application.

The area under application falls within the Intensive Land Use Zone and is subject to the EPA's Position Statement No. 2 Environmental Protection of Native Vegetation in Western Australia.

The area under application is held in fee simple therefore Native Title has been extinguished.

Methodology

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Cropping	Mechanical Removal	500	Refuse	<p>The assessing officer recommends that the permit be refused as the proposal is seriously at variance to Principles (e) and (g) at variance to Principles (a), (b), (f), (h) and (i), and may be at variance to Principle (c).</p> <ul style="list-style-type: none"> - DAWA advised that the clearing is likely to increase the risk of groundwater recharge, resulting in a high risk of land degradation in the form of land salinisation. - CALM reported that the clearing is likely to impact upon local biodiversity values. - The proposal may impact upon Specially Protected and other significant fauna. - Given the local occurrence of DRF and Priority species and the diversity of the Geraldton Hills IBRA subregion, the proposal may impact upon rare flora. - The remaining vegetation extent of the Shire of Mullewa is classed as vulnerable, and the area under application is the largest remnant remaining within a 15km radius. - The purpose of the clearing is for agriculture and the area is subject to the EPA Position Statement Number 2. - The increase in groundwater recharge that would result from the clearing may lead

Cropping Mechanical Removal 280

Refuse

to an increase in salinity off site.

The reduction of the area to be cleared has not been sufficient to change the assessment of the Principles. All of the problems outlined in the previous decision remain

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 CRN220103.
- DAFWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM ref IN25209.
- 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
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)