



1. Application details

1.1. Permit application details

Permit application No.: 608/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Ramelius Resources Limited

1.3. Property details

Property: M15/1101
Local Government Area: Shire Of Coolgardie
Colloquial name: Hilditch

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
25		Mechanical Removal	Mineral Production

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>The area under application comprises of the following Beard vegetation associations:</p> <p>2009 - medium woodland; redwood and Goldfields blackbutt; and</p> <p>36 - medium woodland; salmon gum</p> <p>(Shepherd et al 2001, Hopkins et al 2001)</p>	<p>Within the mining tenement M15/1101, 11 vegetation communities were identified with the majority Eucalypt woodland (8 communities) (Outback Ecology Services 2005). The remaining communities consist of two Acacia shrubland/woodlands and one Melaleuca woodland (Outback Ecology Services 2005). The dominant Eucalypt species include Eucalyptus lesouefii, E. salmonophloia, E. salubris and E. trancontinentalis (Outback Ecology Services 2005). Other dominant families include Myoporaceae, Myrtaceae, Chenopodiaceae and Mimosaceae (Outback Ecology Services 2005). There is some evidence of historical logging within the Melaleuca woodland, however the majority of the vegetation under application has been described as being in 'very good' to 'excellent' condition according to the Keighery (1994) vegetation scale and only one weed species recorded (Outback Ecology Services 2005).</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)</p>	<p>The vegetation condition is described as 'excellent' as the flora survey does not document many disturbance factors with only one weed species identified and evidence of logging only evident in the Melaleuca woodland (Outback Ecology Services 2005).</p>

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**
A total of 11 vegetation communities were identified within the 277ha survey area which includes the amended

area under application (Outback Ecology Services 2005). The vegetation condition was reported as ranging from 'very good' to 'excellent' (according to Keighery (1994) vegetation condition scale) (Outback Ecology Services 2005). There is evidence of historical logging in the Melaleuca woodland and clearing for exploration drilling is also evident (Outback Ecology Services 2005). Given that the vegetation communities within the area under application appear to be common and widespread (Outback Ecology Services 2005), the clearing as proposed is unlikely to be of high biodiversity value.

Methodology Outback Ecology Services (2005) (DoE Trim Ref IN21249)
GIS databases:-
Western Australia Etm 25m 543-Ago 04

(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

A number of specially protected fauna species are known to occur in the local area (50km radius) and include:
Dasyurus geoffroi (Chuditch);
Leipoa ocellata (Malleefowl);
Platycercus icterotis xanthogenys (Western rosella);
Falco peregrinus (Peregrine Falcon);
Morelia spilota imbricata (Carpet python);
Ogyris subterrestris petrina;
Hylacola cauta whitlocki (Shy heathwren, western species);
Oreoica gutturalis gutturalis (Crested bell bird, southern species);
Pomatostomus superciliosus ashbyi (White browed babbler, western wheatbelt)
(CALM 2005a)

It is possible that the vegetation under application may be suitable habitat for these and other fauna species. However, given the commonality of the vegetation under application within the surrounding region (Outback Ecology Services 2005), it is considered unlikely that the clearing as proposed would have a significant impact on fauna and fauna habitat (CALM 2005b).

Methodology Outback Ecology Services (2005) (DoE Trim Ref IN21249)
CALM (2005a) (DoE Trim Ref ED562)
CALM (2005b) (DoE Trim Ref E14354)

(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

The Declared Rare Flora species *Gastrolobium graniticum* and *Pityrodia scabra* as well as 32 priority species are known to occur in the local area (50km radius) (CALM 2005). However, none of these species were identified from a flora survey of tenement M15/1101, which contains the area under application (Outback Ecology Services 2005). CALM (2005) advises that the amended area under application is the area of least likelihood of being at variance to this Principle.

Methodology Outback Ecology (2005) (DoE Trim Ref IN21249)
CALM (2005a) (DoE Trim Ref ED562)
CALM (2005b) (DoE Trim Ref E14354)
GIS databases:-
-Declared Rare and Priority Flora List - CALM 13/08/03.
- Pre-European Vegetation - DA 01/01

(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 (TECs) in the vicinity of the proposed clearing (CALM 2005a). In addition, no TECs were identified during the vegetation survey (Outback Ecology Services 2005).

Methodology CALM (2005a) (DoE Trim reference: ED562)
Outback Ecology Services (2005) (DoE Trim reference: IN21249)
GIS databases:
- Threatened Ecological Communities - CALM 15/7/03
- Threatened Plant Communities - DEP 06/95.

(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 State Government is committed to the National Objectives and Targets for Biodiversity Conservation which outlines a target that prevents clearance of ecological communities with an extent below 30% of that present pre-European settlement (Department of Natural Resources and Environment 2002, EPA 2000). In relation to this application, the area under application consists of Beard vegetation associations 2009 and 936 (Shepherd et al 2001, Hopkins et al 2001). Both of these vegetation associations are substantially above this 30% minimum, with the association 2009 having 99.2% (57,135ha) remaining and the association 936 having 89.2% (906,826ha) remaining (Shepherd et al 2001, Hopkins et al 2001). Although these vegetation associations are not well represented in conservation reserves (CALM 2005a) they are considerably above the 30% threshold (Shepherd et al 2001, Hopkins et al 2001) and therefore this Principle is not considered to be at variance.

Methodology Hopkins et al. (2001)
Shepherd et al (2001)
Department of Natural Resources and Environment 2002
EPA 2000
CALM (2005a) (DoE Trim reference: ED562)
GIS databases:
- Pre-European Vegetation - DA 01/01
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

(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

There are no permanent wetlands or waterbodies within the area under application. There are however, two minor, non-perennial watercourses within the tenement containing the area under application. Given the area has a low annual rainfall and a high evaporation rate, it is considered unlikely that any vegetation within the area under application is associated with a wetland or waterbody.

Methodology GIS databases:
- Hydrography, linear - DOE 01/02/04.
- Rainfall, Mean Annual - BOM 30/09/01
- Evaporation Isopleths - BOM 09/98

(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 under application is part of the Gumland land system which consists of alluvial plains and drainage tract land units that are slightly susceptible to soil erosion where the protective vegetation is removed (DAWA 2005). DAWA (2005) advises that provided the natural flow regime is maintained, the clearing as proposed is not likely to be at variance to this Principle. The proponent has provided information pertaining to measures to control potential erosion from surface water run-off. This includes the use of bunds and drainage channels to contain and direct surface water flow to purpose built settlement ponds, as well as spoon drains and sumps along the haul road verge. In addition, where the proposed haul road would cross a drainage line, a floodway crossing would be constructed to allow storm water to flow under the constructed roadway.

Given the above control measures, it is considered that clearing as proposed would not cause appreciable land degradation on or off site.

Methodology DAWA (2005) Land Degradation Assessment (DoE Trim Ref EI4420)
Information provided by the proponent (DoE Trim Ref EI4532)

(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

Within the local area (50km radius), there are a number of Nature Reserves and Timber Reserves as well as the Karamindie State Forest (CALM 2005a). The nearest CALM managed land is the Kambalda Timber Reserve which is approximately 11km from the area under application. Due to the distance to this Reserve and the continuity of the native vegetation within the surrounding landscape, it is unlikely that the clearing as proposed would have a significant impact on the Reserve.

Methodology CALM (2005a) (DoE Trim reference: ED562)
GIS databases:-
- CALM Managed Lands and Waters - CALM 1/06/04

(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 contains 1-2 minor non-perennial water courses which flow towards the salt lake, Lake Lefroy to the east. It is considered unlikely that the clearing as proposed would have a significant effect on the flow into Lake Lefroy given the number of other flow lines that converge on this lake. In addition, the proponent intends to utilise the following surface water measures including bunds and drainage channels to contain and direct surface water flow to purpose built settlement ponds, as well as spoon drains and sumps along the haul road verge.

The groundwater within the area under application and the surrounding area is saline (14,000-35,000mg/L) and occurs at depth (Outback Ecology Services 2005). It is considered that the dewatering associated with the mining processes is likely to have a greater effect on groundwater levels and quality than the removal of a relatively small area of native vegetation.

It is considered that the clearing as proposed would have minimal impact on the quality of surface and/or underground water.

Methodology Outback Ecology Services (2005) (DoE Trim reference: IN21249)

GIS databases:-

- Groundwater Salinity, Statewide - 22/02/00.
- Hydrography, linear - DOE 01/02/04.
- Geodata, Lakes - GA 28/06/02

(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

The area under application and the surrounding area have a mean annual rainfall of 300mm and an evapotranspiration rate of 300mm. In addition, the topography of the general area is relatively flat, varying at 340-360m. Given that the area under application is 25ha of a 58,873,440ha salt lake catchment, it is considered unlikely that the clearing as proposed would exacerbate the incidence or peak height of flooding.

Methodology GIS databases:

- Topographic Contours, Statewide - DOLA 12/09/02.
- Rainfall, Mean Annual - BOM 30/09/01
- Evapotranspiration, Area actual - BOM 30/09/01

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

Comments

There is a Native Title Claim over the area under application. However, mining tenements for purposes consistent with the clearing have been granted so therefore the granting of a clearing permit is not a future act under the Native Title Act.

A submission from the general public was received in relation to this application. This submission urged that comprehensive and appropriately time flora and fauna surveys be conducted that considered the biodiversity of the site, the significance of the site for fauna and whether the site contains any Declared Rare Flora. The submission also urged that consideration should also be given to the topography, surface hydrology and soil mapping of the site; a written description and mapping of the vegetation condition of the site; an indication of the commonality of the vegetation; a management plan for the remaining vegetation; and a management plan covering surface water run-off, weed control, proposed nutrient monitoring and possible Aboriginal/European Heritage issues.

The proponent has provided a comprehensive report that details the climate, geology, hydrology, surface hydrology and Aboriginal and European Heritage, in addition to the flora survey of the area under application. The flora survey covered Declared Rare Flora, Threatened Ecological Communities, vegetation condition and regional significance. This report was an integral part of the assessment.

Methodology

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mineral Production	Mechanical Removal	25	Grant	The original area under application was for 160ha for mineral production, this was subsequently reduced to 25ha following an exemption identified under Schedule 1 Item 2 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

Assessment of the Clearing Principles was subsequently conducted on the remaining 25ha. From this assessment, the clearing as proposed is not likely to be at variance

to the Principles and as such the assessing officer recommends that the permit be granted based on the following conditions:

1. The Permit Holder shall record the following for each instance of clearing: location where clearing occurred; purpose; area clearing in hectares; and area rehabilitated in hectares.
2. The Permit Holder shall provide a report to the CEO by January 31 setting out the records required under condition 1 of this permit in relation to the clearing carried out between January 1 and 31 December of the previous year.

In addition the proponent should also be advised that CALM requested in their advice that the CALM Regional Office be notified of any clearing of Sandalwood (*Santalum spicatum*) so that arrangements can be made for its utilisation.

5. References

- AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.
- CALM (2005a) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref ED562.
- CALM (2005b) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref EI4354.
- DAWA (2005a) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref EI4159.
- DAWA (2005b) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref EI4420.
- 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.
- Outback Ecology Services (March 2005). Supporting Document for Purpose Permit Application for Hilditch. Report prepared for Ramelius Resources Ltd. (DoE Trim Ref IN21249)
- 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)