



1. Application details

1.1. Permit application details

Permit application No.: 551/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Worsley Alumina Pty Ltd

1.3. Property details

Property: LOT 5314 ON PLAN 220209 (MORNINGTON 6221)
Local Government Area: Shire Of Harvey
Colloquial name: Wellington Loc 5314 and 5315

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 0.98 | | Mechanical Removal | Mining |

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 Unit 3 - Medium forest; jarrah-marri | The vegetation under application has been previously cleared and has been rehabilitated. | Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) | |
| Mattiske: Murray (My1) - Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Eucalyptus patens on valley slopes to woodland of fs24 Eucalyptus rudis-Melaleuca raphiophylla on the valley floors in humid and subhumid zones. | | | |
| Yarragil (Yg1) - Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla on slopes with mixtures of Eucalyptus patens and Eucalyptus megacarpa on the valley floors in humid and subhumid zones. | | | |
| Dwellingup (D1) - Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla on lateritic uplands in mainly humid and subhumid 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 is not at variance to this Principle**
The area under application is not considered to be of high biological diversity due to the close proximity to the

highly disturbed environment of the refinery bauxite residue disposal area. The area under application is a previously cleared area that has been rehabilitated and is of a small size limiting the biodiversity value of the vegetation.

Methodology GIS databases:
- Bunbury Orthomosaic - DOLA 11/00

(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 at variance to this Principle**
Aerial Photography indicates that the vegetation is unlikely to provide habitat for fauna species. The level of disturbance within the site, and the small size of the area under application, is likely to further limit the habitat value of the vegetation.

Methodology GIS databases:
- Bunbury Orthomosaic - DOLA 11/00

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

Comments **Proposal is not at variance to this Principle**
There are seven Declared Rare Flora populations mapped within the local area (10km radius). They all occur on the same Beard vegetation units and on two of the Mattiske vegetation units. Three occur on the same Heddle vegetation unit as the area under application and are vegetatively linked.

One Priority 3 population, *Meeboldina thyanantha*, occurs 2.2km south east of the area under application. This population occurs on the same Beard but not Mattiske or Heddle vegetation types as the area under application. It is vegetatively linked.

Four Priority 4 populations occur in the local area, the closest being, *Pultenaea skinneri*, 3.8km south of the area under application. All occur on the same Beard vegetation type, two on the same Heddle vegetation type and two on the same Mattiske vegetation type as the area under application. It is vegetatively linked.

The area under application is a previously cleared area that has been rehabilitated. It is within an active area of the refinery and is therefore a low probability of the proposed clearing being at variance with this principle.

Methodology GIS databases:
- Declared Rare and Priority Flora List - CALM 13/08/03

(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 at variance to this Principle**
There are no records of Threatened Ecological Communities (TEC) or Threatened Plant Communities (TPC) within the local area (10km radius).

There is a low probability of the proposed clearing being at variance with this principle.

Methodology 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 at variance to this Principle**
The area under application is located in the Jarrah Forest Bioregion in the Shire of Harvey. The extent of native vegetation in these areas is 58.3% and 60.1% respectively (Shepherd et al. 2001).

| | Pre-European (ha)* | Current extent (ha)* | Remaining (%)* | Conservation** status |
|-----------------------------------|--------------------|----------------------|----------------|-----------------------|
| IBRA Bioregion - Jarrah Forest*** | 4544335 | 2 624 301 | 58.3 | Least Concern |
| Shire of Harvey | 168 294 | 101 085 | 60.1 | Least Concern |

Vegetation type:

| | | | | |
|-----------------|-----------|-----------|------|---------------|
| Beard: Unit 3 | 3 046 385 | 2 197 837 | 72.1 | Least Concern |
| Mattiske: | | | | |
| Murray (My1) | 686 104 | 585 544 | 85.3 | Least Concern |
| Yarragil (YR) | 800 603 | 703 654 | 87.9 | Least Concern |
| Dwellingup (D1) | 2 082 806 | 1 832 869 | 88 | Least Concern |

Hedde:
Yarragil Complex (no data available)

* (Shepherd et al. 2001)

** (Department of Natural Resources and Environment 2002)

*** Within the Intensive Landuse Zone

Methodology Department of Natural Resources and Environment (2002)
Havel (2002)
Hedde et al. (1980)
Hopkins et al. (2001)
Shepherd et al. (2001)
GIS databases:
- Local Government Authorities - DLI 8/07/04
- Mattiske Vegetation - CALM 24/3/98
- Interim Biogeographic Regionalisation of Australia - EM 18/10/00
- 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

The area under application to the west is on the Augustus River tributary. The system directly above the area under application is a highly modified drainage system. The system below the western area under application flows into a large dam.

The areas under application are unlikely to significantly degrade the environmental values of this watercourse.

Methodology GIS databases:
- Hydrography Linear - DoE 1/2/04
- Hydrography Linear (hierarchy) DoE 13/4/05

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

Comments Proposal is not at variance to this Principle

There is no information for Acid Sulphate Soils within the area under application. Groundwater salinity is mapped at 500 - 1000 mg/L. Salinity is mapped at a low risk area.

There is a slightly increased risk of salinity occurring in the area under application to the west as this is a river/drainage area, however, clearing of the area under application is small and unlikely to significantly contribute to salinity.

It is not likely that the proposed clearing is at variance to this principle.

Methodology GIS databases:
- Salinity Risk LM 25m - DOLA 00.
- 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 not likely to be at variance to this Principle

The area under application is within the Harris River State Forest. The area has undergone a high level of disturbance and has been previously cleared and rehabilitated.

Clearing of the area under application is unlikely to significantly reduce the environmental value of the area.

Methodology GIS database:
- 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 at variance to this Principle

The area under application is within the Brunswick Catchment Area Water Source Protection Plan.

Due to the small scale of the proposed clearing, it is unlikely to significantly degrade water quality.

'Any surface water from the area west of the northern valley pipehead dam will flow through 250m of vegetation before entering a large artificially dammed freshwater lake to the south west of the area under application. This large body of water on the refinery lease and the long residence time it provides, buffers against any impacts on the Augustus River. Monitoring of the discharge from this dam (presently required under the EP Act, RIWI Act and Ministerial conditions), along with bores in the area would detect any deterioration in water quality. The risk of impact is considered to be very low.'

'The area under application to the east of the northern valley pipehead dam is within a closed circuit water management system. As part of licensing requirements, all water captured in this area is recycled back to the refinery catchment lake to be used in the refinery process.'

'I believe that any clearing for the pipeline easement would be minimal and quickly and easily rehabilitated and therefore provides no water quality risk. Nonetheless the area under application is within the southern valley pipehead dam which is also within the closed circuit water management system' (Bishop, C. pers com. 2005).

Methodology Hydrogeological advice (Bishop, C. , Environmental Officer, DoE, pers com 2005)

(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

Flooding impacts are unlikely to occur as a result of the proposed clearing due to its small size.

Methodology GIS databases:
Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The Shire of Harvey has not responded to any planning issues or other issues.

The area under application is zoned Forestry.

Methodology GIS database:
- Town Planning Scheme Zones - MFP 8/98.

4. Assessor's recommendations

| Purpose | Method | Applied area (ha)/ trees | Decision | Comment / recommendation |
|---------|--------------------|--------------------------|--------------|---|
| Mining | Mechanical Removal | 0.98 | Grant | Recommended that the application be granted as it is not at variance to any of the Clearing Principles. |

5. References

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.

Havel, J.J. and Matiske 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, BJ (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Matiske 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.