Department of Environment
Government of Western Australia

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 590/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Water Corporation**

1.3. Property details

Property: CROWN RESERVE 13201 (BURRACOPPIN 6421)
Local Government Area: Shire Of Merredin
Colloquial name: Great Eastern Highway R 13201 Booraan Tank Complex

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.8		Mechanical Removal	Hazard reduction or fire control

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 36: Shrublands; thicket, acacia-cauarina alliance species (Hopkins et al 2001, Shepherd et al 2001).	The vegetation under application consists of Eucalyptus sp. (mallee) and kwongan type vegetation (Acacia sp., Casuarina sp. etc) (Site visit 16.08.05). The understorey varies significantly throughout the area under application from being relatively sparse to moderately dense.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The area under application is adjacent to an existing water tank and associated infrastructure. The vegetation is fragmented and has been disturbed by human activity associated with the tank site. The tank site perimeter has been fenced with a 2.0 m chainmesh fence (Site Visit 16.08.05).

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 under application of 1.2ha is adjacent to Great Eastern Highway, the Trans Australian Railway and the Goldfields Pipeline. It is located within an area of fragmented native vegetation, due mainly to human activity, and is enclosed by a 2 m chain mesh fence. Given the above it is unlikely that the clearing as proposed will have an adverse effect on the biodiversity of the area. Areas of native vegetation of up to 1300ha are contained within nature reserves within 10km of the proposal and are likely to contain significantly higher biodiversity values that the land under application.

Methodology

Site Visit (16.08.05)
GIS Databases:
- CALM Managed Lands and Water - CALM 01/08/04
- Merredin 1.4m Orthophoto - DOLA 99

(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

CALM's Threatened Fauna database identifies one malleefowl sighting 65m north of the proposal and another malleefowl sighting ~9km ENE of the proposal. There are no other records of Threatened or Priority Fauna within 10km of the proposal.

The area under application is adjacent to Great Eastern Highway, the Trans Australian Railway and the Goldfields Pipeline and lies within an area of fragmented native vegetation, fragmented through human activity disturbance. As the area proposed to be cleared is enclosed by a 2m chainmesh fence, it is unlikely that clearing will have an adverse impact upon the malleefowl or other endemic fauna in the local or broader area.

It is noted that there is ~1300ha of native vegetation conserved in nature reserves within 10km of the proposal,

and significant stands of other native vegetation on private and Crown land within the local area. These tracts of native vegetation represent significant habitat for fauna in the local area.

Methodology Site Visit (16.08.05)
GIS Database:
- Threatened Fauna - CALM 30/9/05
- CALM Managed Lands and Water - CALM 01/08/04

(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**
CALM's Declared Rare and Priority Flora List database shows no occurrences of Declared Rare Flora (DRF) in the area under application. The nearest DRF to the current proposal are 9.9km NE (Eucalyptus Crucis subs crucis) and 12.4km ENE (Eremophila resinosa). Given the disturbed condition of the vegetation of the area under application, it is unlikely that it includes or is necessary for the continued existence of rare flora.

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 threatened ecological community.

Comments **Proposal is not likely to be at variance to this Principle**
CALM's Threatened Ecological Community Database shows no known occurrences of Threatened Ecological Communities (TECs) in the area under application. The nearest recorded TEC is 70km SE of the current proposal. Given the disturbed condition of the vegetation of the area under application, it is unlikely that flora of conservation significance occur within the area under application.

Methodology GIS Databases:
- Threatened Ecological Community Database - CALM 15/07/03
- Environmentally Sensitive Areas - DOE 22/10/04

(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 Targets for Biodiversity Conservation which includes a target that prevents a clearance of ecological communities with an extent below 30% of that present pre-European settlement (Department of Natural Resources and Environment 2002, EPA 2000). The vegetation at the site is a component of Beard Vegetation Association 36 (Hopkins et al. 2001) of which there is 41.3% (Shepherd et al. 2001) of the pre-European extent remaining and therefore of a 'depleted' status for biodiversity conservation (Department of Natural Resources and Environment 2002).

Although the extent of native vegetation for the Avon Wheatbelt and the Shire of Merredin is 16% and 11.8% respectively, the vegetation association in the land under application consists of 1.2ha of its 177,262ha extent. In addition, the area under application is highly fragmented as a result of previous human activity associated within the tank complex located on Reserve 13201.

Within the local area (10km) nature reserves and Merredin townsite reserves contain ~2600ha of native vegetation. This figure does not include native vegetation in the corridor containing Great Eastern Highway, the Goldfields Pipeline and the Trans Continental Railway, nor does it include native vegetation on private property and other local reserves.

Methodology Site visit (16.08.05)
Shepherd et al. (2001)
Hopkins et al. (2001)
GIS Databases:
- Pre-European Vegetation - DA 01/01
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Cadastre - DLI 01/09/05

(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 no watercourses or wetlands within the area under application. The nearest is a minor non-perennial watercourse located 340m to the north-west that is down gradient from and separated from the land under application by Great Eastern Highway, the Goldfields Pipeline and the Trans Australian Railway. The native

vegetation under application is not considered to be influenced by or dependent upon any watercourse.

Methodology Site Visit (16.08.05)
GIS Databases:
- Hydrography, linear - DOE 01/02/04

(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 relatively small (1.2ha) and will continue to have native vegetation surrounding it to act as a windbreak. There are also existing water tanks and associated infrastructure adjacent to the proposed clearing. Therefore, it is not likely that the processes of erosion, surface or sub-surface hydrology will cause significant land degradation as a result of clearing of native vegetation within this proposal.

Methodology Site Visit (16.08.05)
GIS Databases:
- Hydrography, linear - DoE 01/02/04

(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 10km of the proposal are four nature reserves with a combined area of ~1300ha. The native vegetation of the land under application has been disturbed and involves several fragmented pieces of vegetation that are physically separated from adjoining native vegetation by a 2 metre chainmesh fence. Removal of this vegetation will not have a significant impact upon the fragmented native vegetation corridor along major transport routes and infrastructure (Great Eastern Highway, the Goldfields Pipeline and the Trans Australian Railway) linking the nature reserves. The native vegetation corridor, although fragmented, is up to 500m wide at this point. The area under application is a fragmented and a lateral extension of the corridor.

Methodology Shepherd et al. (2001)
Hopkins et al. (2001)
JANIS Forests Criteria (1997)
GIS Databases:
- CALM Managed Lands and Water - CALM 01/08/04
- Pre-European Vegetation - DA 01/01
- Merredin 1.4m Orthophoto - DOLA 99

(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**
Given that 1.2ha of land clearing is proposed in this instance, and that the land is located high in the landscape there is unlikely to be significant surface flow emanating from the land subject to this proposal. With an average annual rainfall of 300mm and an annual evaporation rate of 2 600mm there is little surface flow during normal seasonal rains. It is only during major rainfall events that there is any significant surface flow. Surface flow during these events tends to be relatively fresh. The saline lake system of the Yilgarn Sub-Catchment of the Avon River Basin becomes a medium for the collection and transportation of major flows.

With high annual evaporation rates and low annual rainfall there is little recharge into regional groundwater, which is considered to be brackish at this site (between 7 000 mg/l and 14 000 mg/l). The proposed clearing of native vegetation for this proposal is unlikely to have an impact on regional groundwater considering the magnitude of the Yilgarn-Goldfields Groundwater Province (~300,000 sq km).

Methodology GIS Databases:
- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Groundwater Salinity, Statewide - 22/02/00
- Hydrography, linear - DOE 01/02/04
- Groundwater Provinces - WRC 98
- Hydrographic Catchments, Basins - DOE 23/03/05
- Topographic Contours, Statewide - DOLA 12/09/02

(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**
With an average annual rainfall of 300mm and an annual evaporation rate of 2 500mm there is little surface flow during normal seasonal rains. It is only during major rainfall events that there is a likelihood of flooding for which

the broad valleys and lake systems of the region are designed to compensate and sustain floodwaters. The site is located moderately high in the landscape where there is little runoff due to being in a high recharge zone (Site visit). Given the small scale of the proposed clearing (1.2ha) it is unlikely that this will contribute to an increase in flood peak duration or peak flood height.

Methodology Site visit (16.08.05)
GIS Databases:
- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Hydrography, linear - DOE 01/02/04
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The Shire of Merredin advise that it is important for infrastructure such as the Booran Tank Complex to be protected and maintained. Support from the Shire is therefore given to this proposal.

The proposal is located within a 10,000ha area that has been identified as an aboriginal site of significance named Talgermine Rock.

There are no additional licences, approvals or permits required under the Environmental Protection Act 1986 or the Rights in Water and Irrigation Act 1914.

Methodology Shire of Merredin (2005) (DOE TRIM Ref NI 1141)
GIS Database:
- Aboriginal Sites of Significance - DIA 28/02/03

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Hazard reduction or fire control	Mechanical Removal	1.8	**Grant**	The area applied (1.8 ha) was amended to 1.2 ha. The application for 1.2 ha has been assessed and the clearing as proposed is not or is not likely to be at variance with the Clearing Principles. The assessing officer therefore recommends that the permit to clear 1.2 ha be granted. GIS database indicates that the land under application is located within a 10,000ha aboriginal site of significance. It is recommended that the applicant contacts the Department of Indigenous Affairs regarding this issue.

5. References

AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.

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.

JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.

Keighery, BJ (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.

Shire of Merredin (2005) Submission (DOE TRIM Ref NI 1141)

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)