Government of Western Australia
Department of Environment Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6573/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: D. & C. Geraghty Pty Ltd

1.3. Property details

Property: Lot 49 on Plan 238557, Lake Darlot
Local Government Authority: Shire of Leonora
DER Region: Goldfields
Localities: Lake Darlot

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
160		Mechanical Removal	Pivot irrigation

1.5. Decision on application

Decision on Permit Application: Refusal
Decision Date: 30 May 2016
Reasons for Decision: The applicant has applied to clear 160 hectares of native vegetation.

The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has concluded that the proposed clearing is at variance to Principles (f) and (g), may be at variance to Principles (b) and (i), is not at variance to Principle (h) and is not likely to be at variance to Principles (a), (c), (d), (e) and (j).

The Delegated Officer determined that the proposed clearing will cause land degradation in the form of soil erosion, will impact riparian vegetation, may impact habitat for malleefowl, and may cause deterioration in the quality of surface water.

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 18 is described as Low woodland; mulga (*Acacia aneura*) (Shepherd et al, 2001)	The clearing of 160 hectares of native vegetation within Lot 49 on Deposited Plan 238557, Lake Darlot, is for the purpose of pivot irrigation.	Good; Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994). To Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).	The condition of the vegetation under application was determined by supporting information provided by Rapallo Group (2015).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposed clearing is not likely to be at variance to this Principle

The applicant proposes to clear 160 hectares of native vegetation for the purpose of pivot irrigation for the cropping of maize, lucerne hay and Sorghum species. The application area is located within the Yandal pastoral lease, and consists of two separate pivot locations which cover 80 hectares each at the Sisters Bore area in the south and the Central Bore area to the north.

The application area has been subject to historical disturbance by pastoralism and grazing practices since the early 1900's (Rapallo Group, 2015). As a result of this disturbance, the vegetation under application is considered to be in a degraded to good (Keighery, 1994) condition.

The vegetation under application at the Central Bore pivot area consists of stony plains with *Acacia* sp. and

halophytic shrublands. The vegetation under application at the Sisters Bore area comprises mulga shrublands and spinifex (Rapallo Group, 2015).

The local area is extensively vegetated with approximately 99 per cent vegetation cover.

A number of priority flora species have been recorded within a 40 kilometre radius of the two parts of the application area (the local area). The priority flora species recorded within the local area on the same soil and vegetation association as the application areas are priority three and four species. Priority 3 species are generally known from collections from several different localities not under imminent threat and priority 4 species are considered to have been adequately surveyed and not in need of special protection but could be if circumstances change (Parks and Wildlife, 2014). The closest record is a Priority 4 species located approximately 4.4 kilometres south west of the Central Bore area. This species inhabits gravel loam and occurs along drainage lines on rocky outcrops and creek lines (Western Australian Herbarium, 1998-). Noting the extent of vegetation remaining in the local area, and the condition of the vegetation under application, it is considered that the application area is unlikely to contain unique habitat for flora and that the proposed clearing is unlikely to impact on the conservation status of priority flora.

No rare flora, or priority or threatened ecological communities have been recorded within the local area.

The application area includes suitable habitat for the malleefowl (*Leipoa ocellata*), which is listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (Parks and Wildlife, 2015). Malleefowl individuals may be impacted if mounds are present within the application area.

Noting the extent of vegetation remaining in the local area with similar values to the vegetation under application, it is considered that the application area is unlikely to comprise a high level of biological diversity.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:
Keighery (1994)
Parks and Wildife (2014)
Parks and Wildife (2015)
Rapallo Group (2015)
Western Australian Herbarium (1998-)

GIS Databases:
- DPaW Tenure
- Hydrography, hierarchy
- Hydrography , linear
- NLWRA, Current extent of Native Vegetation
- SAC Bio Datasets (Accessed July 2015)

(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

Proposed clearing may be at variance to this Principle

Three fauna species of conservation significance have been recorded within the local area (40 kilometre radius) including malleefowl (*Leipoa ocellata*), peregrine falcon (*Falco peregrinus)* and the brush-tailed mulgara (*Dasycercus blythi*) (Parks and Wildlife, 2007-). Of these, the vegetation under application provides suitable habitat for malleefowl (*Leipoa ocelllata).* The vegetation under application may provide suitable habitat for the peregrine falcon, however, it is not likely to be significant habitat given the mobile nature of this avian species and that the surrounding area is highly vegetated. Suitable habitat may also occur within the application area for the brush-tailed mulgara, however, impacts to the conservation status of this species are unlikely to result from the proposed clearing.

Malleefowl are found within a wide variety of habitat types including low woodlands with an understorey dominated by Acacia species, which are found within the areas proposed for clearing (Benshemesh, 2007; Parks and Wildlife, 2015). Clearing for agricultural purposes in the wheatbelt area has resulted in a significant decline in population size and fragmented remnant vegetation, posing an even greater threat to this species (Benshemesh, 2007). The species is listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* and listed as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Opportunistic sightings and targeted survey work undertaken in the last 10 years has identified mallefowl within 20 kilometres of the Central Bore area in similar vegetation types (Parks and Wildlife, 2015). Therefore, based on vegetation composition and records of occurrence, malleefowl may be present within the application area. However, they are likely to be sparsely distributed within the application area (Parks and Wildlife, 2015).

Noting the presence of suitable habitat for conservation-significant fauna and the potential impacts to malleefowl, the vegetation under application may comprise significant habitat for indigenous fauna.

Given the above, the proposed clearing may be at variance to this principle.

Fauna management practices would help to minimise the impacts to malleefowl.

Methodology References:
Benshemesh (2007)
Parks and Wildlife (2007-)
Parks and Wildlife (2015)

GIS Databases:
- NLWRA, Current Extent of Native Vegetation

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

Comments

Proposed clearing is not likely to be at variance to this Principle
No rare flora taxa have been recorded within the local area (40 kilometre radius).

The local area is extensively vegetated with approximately 99 per cent vegetation cover. The vegetation under application is considered to be in good to degraded (Keighery, 1994) condition.

Noting the extent of vegetation remaining in the local area, and the condition of the vegetation under application, it is considered that the application area is unlikely to include or be necessary for the continued existence of a threatened ecological community.

Therefore, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:
- SAC Bio Datasets (Accessed July 2015)

(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

Proposed clearing is not likely to be at variance to this Principle
No threatened ecological communities (TEC) have been recorded within the local area (40 kilometre radius).

The local area is extensively vegetated with approximately 99 per cent vegetation cover. The vegetation under application is considered to be in good to degraded (Keighery, 1994) condition.

Noting the extent of vegetation remaining in the local area, and the condition of the vegetation under application, it is considered that the application area is unlikely to comprise or be necessary for the maintenance of a threatened ecological community.

Therefore, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:
- SAC Bio Datasets (Accessed July 2015)

(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

Proposed clearing is not likely to be at variance to this Principle
The application area is located within the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 99 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2014).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The vegetation under application comprises Beard vegetation association 18 of which there is approximately 99 per cent of its pre-European extent remaining within the Murchison Bioregion (Government of Western Australia, 2014).

The application area is located within the Shire of Leonora, within which there is approximately 99 per cent pre-European vegetation remaining (Government of Western Australia, 2014).

The local area (40 kilometres) retains approximately 99 per cent native vegetation.

The application area contains suitable habitat for malleefowl, however, given that the vegetation under application is well represented locally and regionally, it is not considered to be a significant remnant in an extensively cleared area.

Given the above, the proposed clearing is not likely to be at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion[1]				
Murchison	28,120,586	28,044,823	99	7
Shire[1]				
Leonora	3,191,337	3,174,003	99	1
Beard Vegetation Association[2] **in Bioregion**[1]				
18	12,403,172	12,363,252	99	4

Methodology

References:
[2]Beard (1981)
Commonwealth of Australia (2001)
[1]Government of Western Australia (2014)

GIS Databases:
- NLWRA, Current Extent of Native Vegetation
- Pre-European Vegetation

(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

Proposed clearing is at variance to this Principle

Numerous minor non-perennial watercourses intersect the Central Bore area and one minor non-perennial watercourse intersects the Sisters Bore site. Ninnis Creek runs through the middle of Central Bore area (Commissioner of Soil and Land Conservation, 2015).

Given the presence of these watercourses within the application area, the vegetation proposed to be cleared is considered to be growing in association with these watercourses.

Given the above, the proposed clearing is at variance to this principle.

Methodology

GIS Datasets:
- Hydrography, linear

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

Comments

Proposed clearing is at variance to this Principle

The application area is comprised of three land systems described as the Gransal, Monk and Duketon land systems, as mapped by the Department of Agriculture and Food (Commissioner of Soil and Land Conservation, 2015).

The Central Bore area has been mapped as the Gransal land system and is described as stony plain and low rises on granite (Commissioner of Soil and Land Conservation, 2015). Four land units occur within this land system including:

- Low rises supporting scattered mixed shrubland on shallow red sands and earth soils within a stony mantle.
- Level to gently undulating gritty surfaced plain with fine quartz mantle supporting scattered mixed shrubs including *Acacia aneura* or *A. quadrimarginea*.
- Level-gently undulating stony plain with mixed stony mantle supporting very scattered Acacia and Eremophila shrubland on shallow red sand or earthy soils.
- Drainage line receiving concentrated run on supporting *A. aneura* shrubland.

The Commissioner of Soil and Land Conservation (2015) has advised that the land units outlined above comprise of soil types, drainage density and topography that is highly suseptible to soil erosion if the land is cleared and cultivated. Severe land degradation and erosion is likely to occur at this site should it be abandoned post-clearing (Commissioner of Soil and Land Conservation, 2015).

The Sisters Bore area is comprised of the Monk and Duketon land systems. The Monk land system area includes three land units which include:

- Extensive level to gently undulating hardpan plain supporting scattered *A. aneura* on red earth soils of variable depth.
- Loamy tracts receiving diffuse run off that support scattered *A. aneura* and wanderrie grasses on red sand over hard pan or deep red earth soils.

- Broad drainage tracts that support similar vegetation on deep red earth soils.

The Duketon land system area includes:
- Sandy banks with fine ferruginous gravel vaneers supporting wanderrie grasses and scattered *A. aneura*.
- Stony hardpan plain subject to sheet flow and supports very scattered *A. aneura* and Eremophila on shallow red earth soil.

The soils of the Monk and Duketon land system are generally stable and resistant to soil erosion due to the presence of protective stony mantles (Commissioner of Soil and Land Conservation, 2015). However, if the soils are disturbed through clearing and cultivation activities, and left without a protective vegetative cover, accelerated soil erosion is likely to occur at the site (Commissioner of Soil and Land Conservation, 2015). Of the two land systems, the Monk land system is likely to make a slow natural recovery if the site is abandoned post-clearing.

Based on the above, it is considered that the proposed clearing is likely to cause appreciable land degradation in the form of soil erosion, especially at the Central Bore site.

Given the above, the proposed clearing is at variance to this principle.

Methodology References:
Commissioner of Soil and Land Conservation (2015)

GIS Databases:
- Soils, 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 **Proposed clearing is not at variance to this Principle**
The closest conservation reserve, 'Wanjarri Nature Reserve' (Class A), is located approximately 37 kilometres north west of the application area. Given the distance to this reserve from the application area, the proposed clearing will not impact upon the environmental values of this reserve.

Given the above, the proposed clearing is not at variance to this principle.

Methodology GIS Databases:
- DPaW Tenure

(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 **Proposed clearing may be at variance to this Principle**
Numerous minor non-perennial watercourses intersect the Central Bore area and one minor non-perennial watercourse intersects the Sisters Bore site. Ninnis Creek runs through the middle of Central Bore area (Commissioner of Soil and Land Conservation, 2015).

Ground water salinity levels in the local area have been mapped as marginal at 500 - 1000 milligrams per litre total dissolved solids at Central Bore and brackish at 1000-3000 milligrams per litre total dissolved solid at Sister Bore. Given the extent of vegetation remaining in the local areas, it is considered that the proposed clearing will not lead to a perceptible rise in the watertable and thus an increase in salinity levels of ground or surface water.

The proposed clearing would result in increased stream turbidity through sediment transport and erosion into the numerous watercourses present within the application area. This is due to the presence of soil types that are susceptible to erosion and the topography of the land.

Given the above, the proposed clearing may be at variance to this principle.

Methodology References:
Commissioner of Soil and Land Conservation (2015)

GIS Databases:
- Hydrology, linear
- RIWI Ground Water Areas

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments **Proposed clearing is not likely to be at variance to this Principle**
Given that the watercourses on site are minor and non-perennial in nature, the removal of remnant vegetation is not expected to cause or exacerbate the incidence or intensity of flooding.

Given the above, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Datasets:
- Hydrography linear

Planning instruments and other relevant matters.

Comments The application is to clear 160 hectares of native vegetation for the purpose of pivot irrigation for cropping.

The application area is located within the Goldfields Groundwater Area. Any groundwater abstraction in this proclaimed area is subject to licencing by the Department of Water (DoW, 2015). DoW (2015) has advised that a licence to take water for supplementary irrigation purposes was issued to the applicant on 11 May 2015. DoW (2015) has advised that the applicant has not applied for a licence to 'construct a well(s)' as existing wells on the property are proposed to be used.

The application area falls within a Native Title Claimant area. The Goldfields Land and Sea Council Aboriginal Corporation were notified of this application and invited to comment on the impact of the clearing proposed on their native title rights and interests. A submission (2015) objecting to the proposed clearing was received from the Goldfields Land and Sea Council Aboriginal Corporation on the grounds that the proposed clearing may adversely affect Aboriginal sites or areas of significance. The proponent is advised to contact the Goldfields Land and Sea Council Aboriginal Corporation to address the matters raised.

On 1 June 2015 the application was advertised in *The West Australian* newspaper for a 21-day submission period. One public comment was received, requesting further information about the application. The submitter was referred to DER's website for further information.

On 24 July 2015 DER wrote to the applicant, outlining the environmental issues identified in the preliminary assessment, and requesting a response within 30 days. DER followed up with the applicant by email on 9 October 2015 and 10 February 2016. To date no formal response has been received from the applicant.

Methodology References:
-DoW (2015)
-Submission (2015)

4. References

Benshemesh, J. (2007). National Recovery Plan for Malleefowl. Department for Environment and Heritage, South Australia.

Commissioner of Soil and Land Conservation (2015). Advice for Clearing Permit CPS 6573/1 – Department of Agriculture and Food. Western Australia (DER Ref: A934989).

Department of Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dec.wa.gov.au/. Accessed 09/07/15

Department of Parks and Wildlife (2014) Conservation Codes for Western Australia Flora and Fauna. Department of Parks and Wildlife. Western Australia.

Department of Parks and Wildlife (2015) Species and Communities advice for Clearing Permit CPS 6573/1. Department of Parks and Wildlife. Western Australia. (DER Ref: A930316)

Department of Water (2015) Advice for Clearing Permit Application CPS 6573/1. Department of Water. Western Australia. (DER Ref: A931725).

Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. WA Department of Parks and Wildlife, Perth.

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

Rapallo Group (2015). Area Permit Application – Yandal Station – Supporting Environmental Report. Western Australia. (DER Ref: A913630).

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.

Submission (2015) Submission received for Clearing Permit CPS 6573/1, received 1 July 2015 (DER Ref: A928868).

Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. http://florabase.dpaw.wa.gov.au/ (Accessed 09/09/2015).