GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 7350/1
File Number: 2011/006842-1
Duration of Permit: From 9 September 2017 to 9 September 2019

PERMIT HOLDER

Shire of Dundas

LAND ON WHICH CLEARING IS TO BE DONE

Lot 503 on Deposited Plan 59268, Norseman
Lot 350 on Deposited Plan 255179, Norseman

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 15.9 hectares of native vegetation within the area hatched yellow on attached Plan 7350/1.

CONDITIONS

1. **Weed control**
   When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
   (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
   (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
   (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

2. **Period in which clearing is authorised**
   The Permit Holder shall not clear native vegetation unless actively using the cleared area for waste disposal within 2 months of the authorised clearing being undertaken.

DEFINITIONS

The following meanings are given to terms used in this Permit:

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or

(b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or

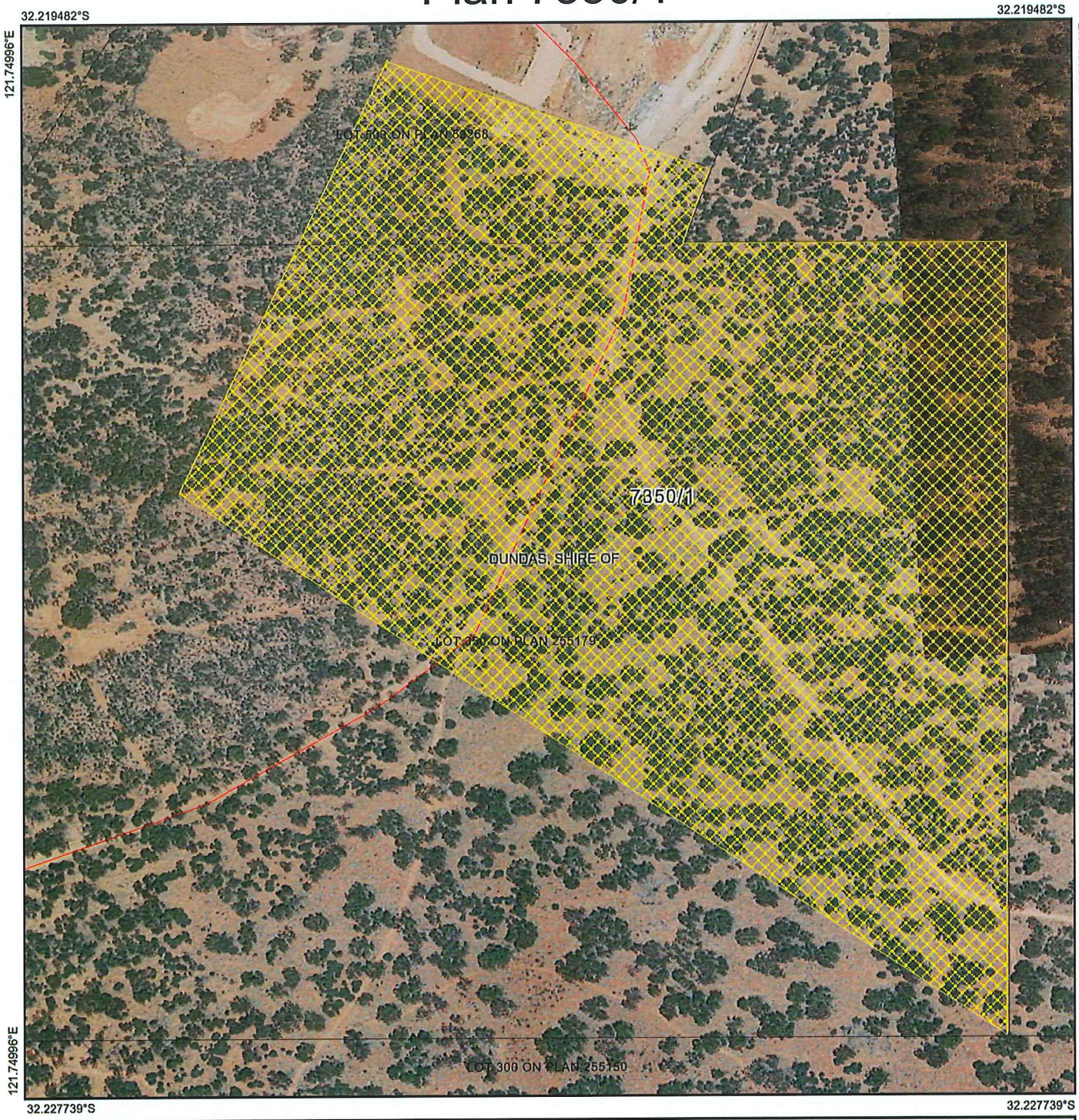
(c) not indigenous to the area concerned.

Mathew Gannaway
MANAGER
CLEARING REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

9 August 2017

Plan 7350/1



Legend

- Cadastre
- Cadastre (Search)
- Imagery
- Clearing Instruments Activities
- Roads
- Local Government Authority

N

0 100m

1:3,000

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

..... Date 9/08/2017

Matthew Gannaway

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7350/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Shire of Dundas

1.3. Property details

Property: Lot 503 on Deposited Plan 59268, Norseman
Lot 350 on Deposited Plan 255179, Norseman

Local Government Authority: Dundas, Shire of
DER Region: Goldfields
DPaW District: Esperance
Localities: Norseman

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
15.9		Mechanical Removal	Waste disposal/management

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 9 August 2017
Reasons for decision: The clearing permit application is to clear 15.9 hectares of native vegetation for the purpose of refuse site extension, and was received on 2 November 2016.

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act), and it has been concluded that the proposed clearing may be at variance to Principles (g), and is not likely to be at variance to the remaining Principles.

The Delegated Officer has determined that the proposed clearing is not likely to result in any significant environmental impacts.

The Delegated Officer determined that the proposed clearing may indirectly impact the environmental values of adjacent remnant vegetation through the introduction or spread of weeds. Weed management measures will assist in minimising this risk.

The Delegated Officer determined that the proposed clearing may cause appreciable land degradation in the form of wind erosion given the soils present and the relatively large size of the proposed clearing. A staged clearing condition will mitigate this risk.

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
The application area is mapped as Beard vegetation association 9 which is described as medium woodland; coral gum (*Eucalyptus torquata*) and Goldfields blackbutt (*E. lesouefii*) (Shepherd et al., 2001)	The application is for the proposed clearing of 15.9 hectares of native vegetation within Lot 350 on Deposited Plan 255179 and Lot 503 on Deposited Plan 59268, Norseman, for the purpose of refuse site extension.	Very Good; vegetation structure altered; obvious signs of disturbance (Keighery, 1994).	The condition of the vegetation within the application area was determined from photographs provided by the applicant (Shire of Dundas, 2017).

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 up to 15.9 hectares of native vegetation within Lot 350 on Deposited Plan 255179 and Lot 503 on Deposited Plan 59268, Norseman, for the purpose of refuse site extension.

The condition of the vegetation within the application area was determined from photographs provided by the applicant (Shire of Dundas, 2017). The vegetation is considered to be in a very good (Keighery, 1994) condition.

A Level 1 flora and fauna survey undertaken by Botanica Consulting in July 2016 was conducted for a nearby clearing permit application area CPS 7291/1 (Botanica Consulting, 2016). The applicant advised that the vegetation within the application area is likely to be similar to that within the surveyed area. The survey by Botanica Consulting identified two broad vegetation communities within the survey area:

- low woodland of *Eucalyptus salicola* over scrub of *Melaleuca pauperiflora* and mid-dense hummock grass of *Triodia scariosa*/ Low sedges of *Lepidosperma sanguinolentum* on sand-loam plain; and
- low woodland of *Eucalyptus lesouefii* over scrub of *Melaleuca pauperiflora* and open dwarf scrub of *Cratystylis conocephala* on sand-loam plain (Botanica Consulting, 2016).

A number of priority flora species have been recorded within the local area (10 kilometre radius). Of these, nine priority flora species are located within three kilometres of the application area from soil and vegetation types similar to those found within the application area:

- *Eucalyptus brockwayi* (priority 3);
- *Atriplex lindleyi* subsp. *conduplicata* (priority 3);
- *Philotheca apiculata* (priority 2);
- *Acacia dorsenna* (priority 1);
- *Beyeria sulcata* var. *truncata* (priority 3);
- *Eremophila purpurascens* (priority 3);
- *Eucalyptus pterocarpa* (priority 4);
- *Grevillea phillipsiana* (priority 1); and
- *Micromyrtus papillosa* (priority 1).

Priority 1 flora species are known from one or a few locations (generally five or less) that are potentially at risk. All occurrences are either very small, on lands not managed for conservation, or otherwise under threat of habitat destruction or degradation. Priority 2 flora species are known from one of a few locations (generally five or less), some of which are on lands managed primarily for nature conservation. Priority 3 flora species are poorly known, however the species does not appear to be under imminent threat. Priority 4 flora species are either rare, near threatened or in need of further monitoring.

Given the similarity of the soil and vegetation types between the habitats within which the abovementioned priority flora species have been recorded and those found within the application area, these species may occur within the application area.

No threatened or priority flora were identified in the Level 1 flora and fauna survey for the nearby clearing permit application CPS 7291/1 (Botanica Consulting, 2016). It is noted however, that the survey area was much smaller in relation to this application area. The former Department of Parks and Wildlife (Parks and Wildlife) advised that "The department does not have detailed flora / fauna data for the site – likely that the site has not been surveyed. The location falls within the Great Western Woodlands area with some priority flora within proximity of the proposed clearing (Naturemap report)" (Parks and Wildlife, 2016). Parks and Wildlife "recommends that a targeted flora survey be conducted of the land under application to determine if any rare or priority flora species are present (Parks and Wildlife, 2017).

A targeted flora and fauna survey was conducted on 24 July 2017, by Botanica Consulting (2017), within the application area. The survey did not identify any conservation significant flora species occurring within the application area (Botanica Consulting, 2017).

Noting that the flora survey was undertaken at the wrong time of year, the survey intensity was adequate and the level of information provided is sufficient enough to conclude that no threatened or priority flora are likely to occur within the application area.

According to available databases, one priority ecological community (PEC) has been recorded twice within the local area. The nearest record of priority 1 '*Allocasuarina globosa* assemblages on greenstone rock' PEC is located approximately 8.2 kilometres south of the application area. The vegetation communities identified during the flora and fauna survey do not resemble this PEC (Botanica Consulting, 2017).

According to available databases, eight fauna species of conservation significance have been recorded within the local area (Parks and Wildlife, 2007-). Given that the application area is located in an extensively vegetated area it is not likely to comprise of significant habitat for fauna indigenous to Western Australia, as discussed under Principle (b).

The proposed clearing may increase the risk of weeds spreading into adjacent vegetated areas. Weed management practices will assist in mitigating this risk.

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

Methodology

References:
Botanica Consulting (2016)
Botanica Consulting (2017)
Keighery (1994)
Parks and Wildlife (2007-)
Parks and Wildlife (2016)
Parks and Wildlife (2017)
Shire of Dundas (2017)

GIS Databases:
- Remnant Vegetation
- Pre European vegetation
- SAC Bio Datasets (Accessed December 2016)
- Soils, Statewide

(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 is not likely to be at variance to this Principle

According to available databases, eight species of conservation significance have been recorded within the local area (10 kilometre radius) (Parks and Wildlife, 2007-), including the Carnaby's cockatoo (*Calyptorhynchus latirostris*) listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (WC Act), the rainbow bee-eater (*Merops ornatus*) and the red-necked stint (*Calidris ruficollis*) protected under international agreement, the peregrine falcon (*Falco peregrinus*) and the carpet python (*Morelia spilota* subsp. *imbricata*) listed as Schedule 4 (other specially protected fauna) under the WC Act.

The application area is located within the non-breeding range for Carnaby's cockatoo (Department of Sustainability, Environment, Water, Population and Communities, 2012). Noting the vegetation communities identified during the flora and fauna survey (Botanica Consulting, 2017), it is considered that the application area does not contain significant foraging or breeding habitat for this species.

The rainbow bee-eater occurs in numerous habitats including open forests and woodlands, shrublands, in cleared or semi-cleared habitats such as areas of human habitation and farmland. It prefers open, cleared or lightly-timbered areas that are often, but not always in close proximity to permanent water (Department of the Environment and Energy, 2017a). The application area may provide suitable habitat for this species given the vegetation type. However, the proposed clearing is unlikely to significantly impact upon the conservation status of this species given the species is highly mobile and the local area is extensively vegetated.

The peregrine falcon has a preference for areas with rocky ledges, cliffs, watercourses, open woodlands or margins of cleared land (Department of the Environment and Energy, 2017b). The application area may provide suitable habitat for this species given there are open woodlands and cleared land that occurs immediately adjacent to the site. However, it is unlikely that this species would roost exclusively in the application area given the species is highly mobile.

As the application area is located in an extensively vegetated area it is not likely to comprise the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

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

Methodology

References:
Botanica Consulting (2017)
Department of the Environment and Energy (2017a)
Department of the Environment and Energy (2017b)
Department of Sustainability, Environment, Water, Population and Communities (2012)
Parks and wildlife (2007-)

GIS Databases:
- Imagery
- Remnant 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

Three rare flora species have been recorded within the local area (10 kilometre radius).

The closest rare flora is located 2.3 kilometres from the application area and there are 18 mapped records of this species within the local area. The rare flora is described as an upright or spreading, moderately dense

mallee two to four metres high with smooth bark. This species is only known from north east Norseman and grows in dark brown, sandy loam amongst granite boulders, in open shrub mallee (Brown et al.,1998).

The second rare flora is a sprawling shrub which grows up to 40 centimetres high and one meter wide. It has needle like phyllodes (flattened leaf stalks that function as leaves). The only known population is on a highly disturbed verge north east of Norseman (Brown et al., 1998).

The third rare flora is a dioecious shrub 1.5 meters high and is found in laterite, clay, loamy soils (Western Australian Herbarium, 1998-).

No threatened or priority flora were identified in the Level 1 flora and fauna survey for nearby clearing permit application area CPS 7291/1 (Botanica Consulting, 2016). It is noted however, that the survey area was much smaller in relation to this application area and Parks and Wildlife advised that it is "difficult to conclude that the priority flora species would not be found in the larger, unsurveyed area" (Parks and Wildlife 2017).

A targeted flora and fauna survey was conducted on 24 July 2017, by Botanica Consulting (2017), within the application area. The survey did not identify any conservation significant flora species occurring within the application area (Botanica Consulting, 2017).

Noting that the flora survey was undertaken at the wrong time of year, the survey intensity was adequate and the level of information provided is sufficient enough to conclude that no threatened flora are likely to occur within the application area.

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

Methodology

References:
Botanica Consulting (2016)
Botanica Consulting (2017)
Brown et al (1998)
Parks and Wildlife (2017)
Western Australian Herbarium (1998-)

GIS Datasets:
- SAC Bio Datasets - accessed January 2017

(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
According to available databases, no threatened ecological communities have been recorded within the local area (10 kilometre radius).

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

Methodology

GIS Databases:
SAC Bio Datasets (Accessed January 2017)\

(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 Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, in which approximately 98 per cent of the pre-European vegetation remains (Government of Western Australia, 2015).

The vegetation within the application area is mapped as Beard vegetation association 9 which retains approximately 98 per cent of its pre-European vegetation extents within the Coolgardie IBRA bioregion (Government of Western Australia, 2015).

The application area is located within the Shire of Dundas, within which there is approximately 99 per cent of pre-European vegetation extent remaining (Government of Western Australia, 2015).

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). All vegetation types and extents within the application area retain more than the 30 per cent recommended threshold. Therefore, it is considered that the application area is not located within an extensively cleared landscape.

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*				
Coolgardie	12 912 204	12 648 491	98	17
Local government*				
Shire of Dundas	9 301 343	9 293 642	99.9	10
Beard Vegetation Association in Bioregion*				
9	240 442	235 101	98	8

Methodology

References:
Commonwealth of Australia (2001)
*Government of Western Australia (2015)

GIS Databases:
-Remnant 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 not likely to be at variance to this Principle

According to available datasets, four watercourses have been recorded within the local area (10 kilometre radius), the closest of which is a Lake located 190 metres west of the application area.

Photographs of the vegetation within the application area provided by the applicant indicate that the application area is unlikely to contain native vegetation growing in, or in association with, an environment associated with a watercourse or wetland (Shire of Dundas, 2017). No watercourses or wetlands were identified within the application area during the targeted flora and fauna survey (Botanica Consulting, 2017).

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

Methodology

References:
Botanica Consulting (2017)
Shire of Dundas (2017)

GIS Databases:
Hydrography, linear
Hydrography, hierarchy

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

Comments

Proposed clearing may be at variance to this Principle

The soil within the application area is mapped as soil type DD14 (Northcote et al., 1960-68). Soil type DD4 is described as 'Flat to undulating land with small valleys occasionally broken by low narrow rocky hills and ridges, or tors and bosses; some block silcrete and silcrete fragments recorded in the area of Sheet 10; some clay pans and salt lakes with dunes and lunettes; some small dune tracts in the area of Sheet 10: chief soils are brown and grey-brown calcareous earths (Gc1.12) and (Gc1.22), mostly with loamy surface soils, but there are some areas with sandy surface soils and some (Gc2.22) soils and gilgais. Associated are various (Dr) soils such as (Dr1.73, Dr1.83) in valleys and flats; shallow red earths (Gn2.12) often with rock at 3 ft; siliceous sands (Uc1.2) on dunes and lunettes; and areas of undescribed soils. Country rock is present in some areas at depths of 3-5 ft, while in other sites non-calcareous clays occur at similar depths' (Northcote et al., 1960-68).

Groundwater salinity within the application area has been mapped as highly saline at between 14,000-35,000 milligrams per litre total dissolved solids.

Noting that the local area and the area immediately surrounding the application area is highly vegetated; the proposed clearing is not likely to cause appreciable land degradation through salinity or water erosion. However, given the relatively large size of the proposed clearing and that the application area occurs on brown and grey loamy soils the proposed clearing may cause appreciable land degradation in the form of wind erosion. A staged clearing condition will mitigate the proposed impact from wind erosion.

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

Methodology

References:
Northcote et al. (1960-68)

GIS Databases:

-Soils, Statewide
-Groundwater salinity

(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 likely to be at variance to this Principle

One conservation area is mapped within the local area (10 kilometre radius). Unnamed Nature Reserve R6043 is located approximately nine kilometres north east of the application area. In addition, a Timber Reserve is located 6.6 kilometres south of the application area.

Given the distance between the application area and the conservation area, the proposed clearing is not likely to have an impact on the environmental values of the reserve.

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

Methodology

GIS Databases:
- Parks and Wildlife, Estate

(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 is not likely to be at variance to this Principle

According to available datasets, four watercourses have been recorded within the local area (10 kilometre radius), the closest of which is a lake located 190 metres west of the application area. The proposed clearing is not likely to impact upon the surface water quality of this wetland given the surrounding vegetation cover and the separation distance to this watercourse.

Groundwater salinity mapped within the application area is between 14,000-35,000 milligrams per litre total dissolved solids (highly saline). The local area is not extensively cleared and retains 98 per cent of its pre-European native vegetation extent (Government of Western Australia, 2015). Noting that the local area and the area immediately surrounding the application area is highly vegetated, the proposed clearing is not likely to cause further deterioration in the quality of groundwater.

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

Methodology

References:
Government of Western Australia (2015)

GIS Databases:
-Groundwater salinity, statewide
-Hydrography, linear
-Remnant vegetation

(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

The application area is located in a low rainfall area, where the average rainfall is 300 millimetres per year.

Based on the low rainfall and that the area surrounding the application area is highly vegetated, it is considered that the proposed clearing is unlikely 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 Databases:
-Hydrography, linear
-Rainfall - Annual Mean

Planning instruments and other relevant matters.

Comments

The applicant proposes to clear up to 15.9 hectares of native vegetation within Lot 350 on Deposited Plan 255179 and Lot 503 on Deposited Plan 59268, Norseman, for the purpose of refuse site extension.

The application was advertised in *The West Australian* newspaper on 5 December 2016 for a 21-day submission period. No public submissions were received in relation to the proposed clearing.

Clearing Permit CPS 5244/1 was granted on 18 October 2012 and authorised the clearing of 5.97 hectares of native vegetation within Lot 350 on Deposited Plan 255179 and Lot 503 on Deposited Plan 59268, Norseman, for the purpose of a waste disposal facility. This permit expired on 9 November 2014.

The applicant has a registration with the former Department of Environment Regulation (DER) (now Department of Water and Environmental Regulation [DWER]) for a category 89 Putrescible Landfill R1491/2003/1 and does not require a works approval for the refuse site extension (DER, 2016).

The application area is located within the 'Norseman Burial 11' Aboriginal Site of Significance. It is the responsibility of the Shire of Dundas to ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

The application area is located within Goldfields Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The proposed waste facility will not involve the extraction of groundwater, no licence is required under the RIWI Act.

The application area is zoned 'Rural' under the local Town Planning Scheme.

On 10 July 2017, a DWER Delegated Officer wrote to the applicant, advising that an assessment of the clearing permit application identified that the application area may contain significant habitat for conservation significant flora. In order to address potential impacts, a flora survey was required to determine if these species are present at the site. The letter invited the applicant to provide advice addressing the issues identified, or withdraw or modify the application.

On 1 August 2017, the applicant provided a targeted flora and fauna assessment of the application area.

Methodology

References:
DER (2016)

GIS Databases
- Aboriginal Sites Register
- Town Planning Schemes
- RIWI, Groundwater Areas

4. References

Botanica Consulting (2016) Flora & Fauna Assessment Norseman Cemetery Expansion. Prepared for Shire of Dundas. July 2016 Version 1. Botanica Consulting. DER Ref: A11703250.

Botanica Consulting (2017) Targeted Flora & Fauna Assessment. Waste Facility extension. 31 July 2017. Botanica Consulting. DER Ref: A11498770.

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Department of the Environment and Energy (2017a) '*Merops ornatus*' – Rainbow Bee-eater in Species Profile and Threats Database, Department of the Environment and Energy, Canberra.

Department of the Environment and Energy (2017b) The Peregrine Falcon '*Falco peregrinus*' in Species Profile and Threats Database, Department of the Environment and Energy, Canberra.

Department of Environment Regulation (DER) (2016) Email correspondence regarding the Norseman Waste Facility. 21 November 2016. DER Ref: A1329939 and A1330019.

Department of Parks and Wildlife (Parks and Wildlife) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dpaw.wa.gov.au/. Accessed 13/12/2016

Department of Parks and Wildlife (Parks and Wildlife) (2016) Regional Advice - Shire of Dundas - CPS 7350/1. Department of Parks and Wildlife. DER Ref: A1351629

Department of Parks and Wildlife (Parks and Wildlife) (2017) Director Level Advice - Shire of Dundas - CPS 7350/1. Department of Parks and Wildlife. DER Ref: 1427267

Department of Sustainability, Environment, Water, Population and Communities (2012) EPBC Act referral guidelines for three threatened black cockatoo species: Carnaby's cockatoo (endangered) *Calyptorhynchus latirostris*, Baudin's cockatoo (vulnerable) *Calyptorhynchus baudinii*, forest red-tailed black cockatoo *Calyptorhynchus banksii naso*. Canberra.

Government of Western Australia (2015). 2015 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2015. Western Australia 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.

Northcote, K.H. with Beckmann, G.G., Bettenay, E., Churchward, H.M., van Dijk, D.C., Dimmock, G.M., Hubble, G.D., Isbell, R.F., McArthur, W.M., Murtha, G.G., Nicolls, K.D., Paton, T.R., Thompson, C.H., Webb, A.A. and Wright, M.J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

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 Dundas (2017) Photos of the Clearing Area. Shire of Dundas. 4 January 207. DER Ref: A1352202
Western Australian Herbarium (1998-) FloraBase – the Western Australian Flora. Department of Parks and Wildlife. https://florabase.dpaw.wa.gov.au. Accessed January 2017