GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS
Area Permit Number: 6108/1
File Number: DEC8555
Duration of Permit: From 20 December 2014 to 20 December 2016

PERMIT HOLDER
Scott Nicklaus Dunnet

LAND ON WHICH CLEARING IS TO BE DONE
Lot 5192 on Deposited Plan 229257, Yeagarup

AUTHORISED ACTIVITY
The Permit Holder shall not clear more than 5.4 hectares of native vegetation within the area hatched yellow on attached Plan 6108/1.

CONDITIONS

1. Dieback and 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* and *dieback*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
(b) ensure that no *dieback* or *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.

DEFINITIONS
The following meanings are given to terms used in this Permit:
dieback means the effect of *Phytophthora* species on native vegetation;
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 -

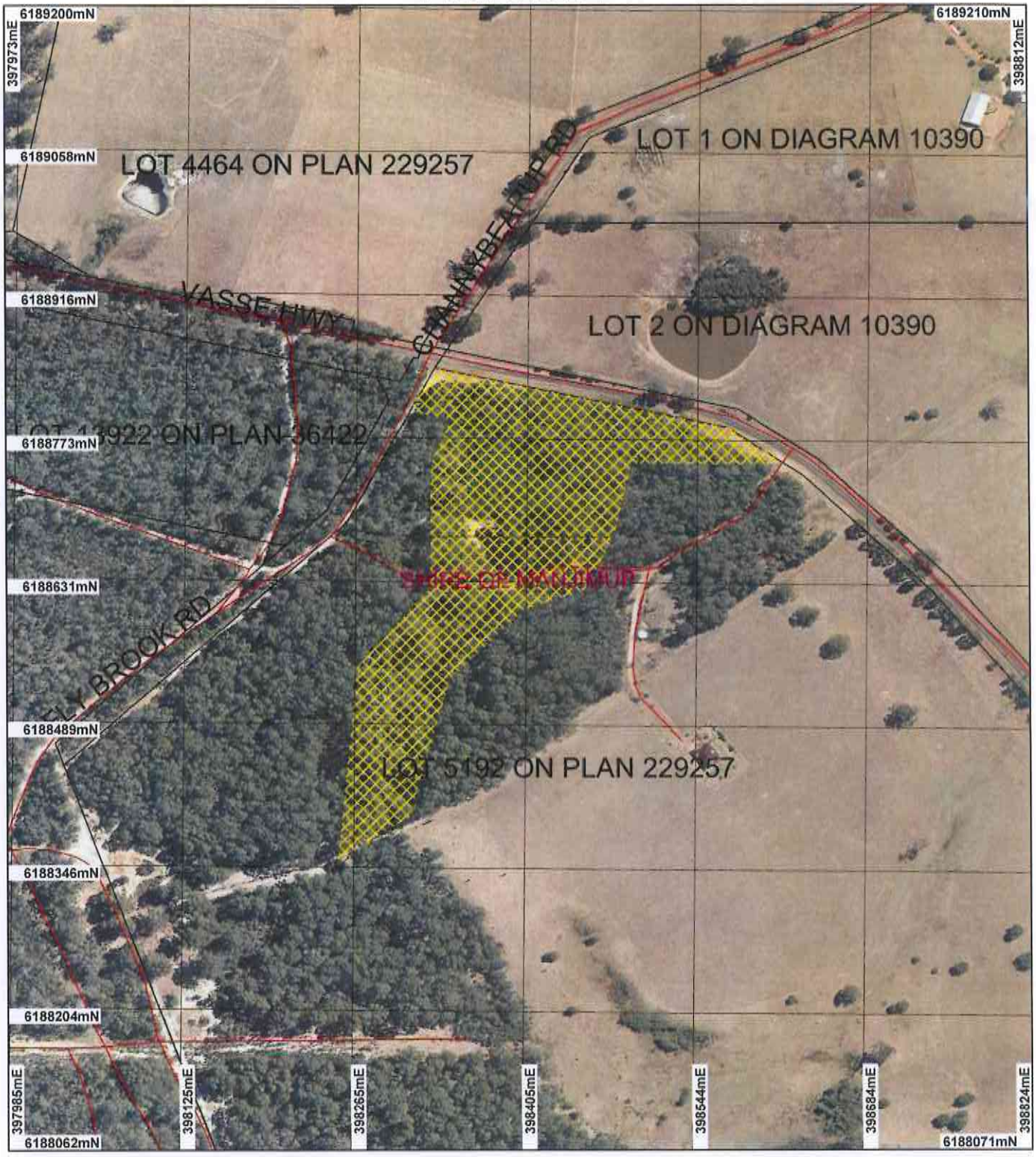
(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
(b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

M Warnock
SENIOR MANAGER
CLEARING REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

20 November 2014

Plan 6108/1



LEGEND

- Cadastre for labelling
- Road Centrelines
- Local Government Authorities
- Clearing Instruments

Donnelly 50cm Orthomosaic - Landgate 2007

N

0 ~150 m

Scale 1:5000
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Date 2/4/14

M Warnock

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

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Government of Western Australia
Department of Environment Regulation

Clearing Permit Decision Report

Government of Western Australia
Department of Environment Regulation

1. Application details

1.1. Permit application details

Permit application No.: 6108/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: MR Scott Dunnet

1.3. Property details

Property: LOT 5192 ON PLAN 229257 (House No. 11820 VASSE YEAGARUP 6260)
Local Government Area: Shire of Manjimup
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5.4		Mechanical Removal	Dam construction or maintenance

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 November 2014

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: 3: Medium forest; jarrah-marri (Shepherd et al. 2001). 1144: Tall forest; karri & marri (Corymbia calophylla) (Shepherd et al. 2001). Mattiske Vegetation: Q: Mosaic of low open woodland of Eucalyptus marginata subsp. marginata-Banksia illicifolia-Nuytsia floribunda and low open woodland of Eucalyptus patens-Melaleuca preissiana-Nuytsia floribunda on less undulating flats in hyperhumid and perhumid zones (Mattiske and Havel 1998). CRd: Open forest to tall open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla on uplands in hyperhumid and perhumid zones (Mattiske and Havel 1998). PM1: Tall open forest of Eucalyptus diversicolor with mixtures of Corymbia calophylla on valley slopes and low forest of Agonis juniperina-Banksia seminuda-Callistachys lanceolata on valley floors in the perhumid zone (Mattiske and Havel 1998).	The clearing of 5.4 hectares of native vegetation within Lot 5192 on Plan 229257, Yeagarup is for the purpose of constructing a dam.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994) To Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	A targeted flora and fauna survey undertaken by Bio Diverse Solutions (2014) identified three broad habitats being: Tall open forest of Corymbia calophylla (Marri), Eucalyptus patens (Blackbutt) and some Eucalyptus diversicolor (Karri) on slopes. Tall open forest of Allocasuarina decussate (Karri Sheoak) with an open sedge dominated understorey and; Tall Shrub land of Taxandria linearifolia and Callistachys lanceolata with a sedge dominated understorey. The vegetation under application is in a good to very good (Keighery 1994) condition (DER 2014).

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 clearing of 5.4 hectares of native vegetation within Lot 5192 on Plan 229257, Yeagarup is for the purpose of constructing a dam.

The vegetation under application is in a good to very good (Keighery 1994) condition (DER 2014). A targeted flora and fauna survey undertaken by Bio Diverse Solutions (2014) identified three broad habitat being: Tall open forest of Corymbia calophylla (Marri), Eucalyptus patens (Blackbutt) and some Eucalyptus diversicolor (Karri) on slopes, tall open forest of Allocasuarina decussate (Karri Sheoak) with an open sedge dominated understorey and tall Shrub land of Taxandria linearifolia and Callistachys lanceolata with a sedge dominated understorey.

Numerous fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius) including: Baudin's Cockatoo (Calyptorhynchus baudinii), Carnaby's Cockatoo (Calyptorhynchus latirostris), Western Ringtail Possum (Pseudocheirus occidentalis) and Quokka (Setonix brachyurus) (DEC 2007-). A targeted flora and fauna survey undertaken by Bio Diverse Solutions (2014) did not identify significant habitat for any conservation significant fauna species.

One rare and five priority flora species have been recorded within the local area (10 kilometre radius). The closest being a rare flora species located approximately 3.8 kilometres north of the area under application. A targeted flora and fauna survey undertaken on 31 October 2014 did not identify any rare or priority flora species within the area under application (Bio Diverse Solutions 2014).

The local area (10 kilometre radius) retains approximately 85 per cent vegetation cover. The application area is located adjacent to large areas of conservation estate that consist of similar vegetation in the same or better condition.

The area under application does not contain significant habitat for fauna or rare and priority flora and therefore is not likely to comprise a high biological diversity.

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

Methodology

References:
- Bio Diverse Solutions (2014)
- DEC (2007-)
- DER (2014)
- Keighery (1994)

GIS Database:
- SAC Bio Datasets - accessed June 2014

(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

Numerous fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius) including: Baudin's Cockatoo (Calyptorhynchus baudinii), Carnaby's Cockatoo (Calyptorhynchus latirostris), Western Ringtail Possum (Pseudocheirus occidentalis) and Quokka (Setonix brachyurus) (DEC 2007-).

The vegetation under application consists of regrowth Karri forest with Marri and Jarrah in good to very good (Keighery 1994) condition (DER 2014).

Carnaby's Cockatoo is listed as endangered and Baudin's Cockatoo is listed as vulnerable under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Baudin's cockatoo and Carnaby's cockatoo have a preference for foraging habitat that includes Jarrah and Marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as Banksia sp. Hakea sp. and Grevillea sp (Commonwealth of Australia 2012). The application is dominated by Karri and therefore the vegetation proposed to be cleared is not the preferred food source for the black cockatoo species.

The application consists predominantly of Karri regrowth and therefore the majority of the trees under application are too young to develop hollows suitable for breeding by the black cockatoo species. A site inspection identified the presence of several large jarrah and marri trees with the potential to develop hollows or with hollows that may provide suitable breeding habitat for the black cockatoo species. 'Breeding habitat' is defined as trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, suitable DBH is 500 millimetres (Commonwealth of Australia 2012). Therefore the vegetation under application may provide suitable breeding habitat for the black cockatoo species.

A targeted flora and fauna survey undertaken by Bio Diverse Solutions (2014) identified five potential habitat trees for the black cockatoo species. None of these trees currently contain nesting hollows large enough for the black cockatoos. There was no evidence of droppings or feathers and no cockatoos were observed roosting, feeding or in breeding hollows during the survey. Therefore the vegetation under application is not likely to contain significant breeding habitat for the black cockatoo species.

Three of the five habitat trees identified contained small hollows suitable for Brush tail Phascogale (Phascogale tapoatafa ssp. Tapoatafa) and Western False Pipistrelle (Falsistrellus mackenziei) however no evidence of these species were found within the survey area (Bio Diverse Solutions 2014). Suitable habitat for these species is likely to be located within the vegetation in better condition within the adjacent conservation area and no loss of significant habitat for this species is expected.

The Western Ringtail Possum is listed as Vulnerable under the EPBC Act. This species has a preference for near coastal Agonis flexuosa forest and Eucalyptus gomphocephala dominated forest with an Agonis flexuosa understorey (Department of the Environment 2013). The Western Ringtail Possum is usually associated with stands of myrtaceous trees growing near swamps, water courses or floodplains (Department of the Environment 2013). The northern portion of the application area particularly adjacent to the watercourse and dam contains Agonis flexuosa within the midstorey. A targeted flora and fauna survey undertaken within the area under application did not identify any evidence that the Western Ringtail Possum utilise the vegetation within the application area. Given the local area retains approximately 85 per cent vegetation cover and the application area is adjacent to a conservation area consisting of vegetation in a better condition, it is unlikely that the area under application provides significant habitat for this species.

Given the area under application contains vegetation in a good to very good (Keighery 1994) condition, the vegetation proposed to be cleared may provide suitable habitat for ground dwelling fauna including the Quokka. A targeted flora and fauna survey identified active quokka runnels with the north western corner of the survey area adjacent to the conservation area within the Allocasuarina woodland and Taxandria shrubland. There was no current evidence of use of these runnels by Quokkas and the only faecal material found within the runnels and in the broader survey area was that of the common brushtail possum (Trichosurus vulpecular subsp. vulpecular). This suggests that the runnels are being maintained by common brushtail possums (Bio Diverse Solutions 2014). Suitable habitat for the Quokka is likely to be located within the vegetation in better condition within the adjacent conservation area and no loss of significant habitat for this species is expected.

Given the above the clearing as proposed is not likely to impact upon significant habitat for fauna indigenous to Western Australia.

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

Methodology

References:
- Bio Diverse Solutions (2014)
- Commonwealth of Australia (2012)
- DEC (2007-)
- Department of the Environment (2013)
- DER (2014)
- Keighery (1994)
- Parks and Wildlife (2014)

GIS Database:
- SAC Bio Datasets - accessed June 2014

(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

One rare flora species has been recorded within the local area (10 kilometre radius). This species has been recorded approximately 3.8 kilometres north of the area under application.

This species usually inhabits paperbark (Melaleuca) and flooded gum (Eucalyptus rudis) swamps and flats which are inundated for several months of the year. This species may also be found along creek lines in Jarrah (Eucalyptus marginata) and Karri (Eucalyptus diversicolor) forest (Brown et al 1998).

The area under application consists of Jarrah, Marri and Karri forest in very good (Keighery 1994) condition. In addition a minor watercourse intersects the application area (DER 2014).

A targeted flora and fauna survey undertaken by Bio Diverse Solutions on 31 October 2014 did not identify any rare flora species. Therefore the clearing as propose is not likely to impact upon any rare flora species.

The clearing as proposed is not likely to be at variance to this principle.

Methodology References:
- Bio Diverse Solutions (2014)
- Brown et al (1998)
- DER (2014)
- Keighery (1994)

GIS Database:
- SAC Bio Datasets - accessed June 2014

(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 threatened ecological communities recorded within the local area (10 kilometre radius).

Therefore the vegetation proposed to be clearing is not likely to be part of or is necessary for the maintenance of a threatened ecological community.

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

Methodology GIS Database:
- SAC Bio Datasets - accessed June 2014

(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 area under application is located within the Warren Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 79 per cent of its Pre European vegetation extent remaining (Government of Western Australia 2013).

The vegetation under application is mapped as Beard Vegetation Associations 3 and 1144 and Mattiske Vegetation Complexes Q, PM1 and CRd which have approximately 80, 78, 95, 67 and 80 per cent of their Pre-European extent remaining in the Warren bioregion respectively (Government of Western Australia 2013, Mattiske and Havel 1998).

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).

Digital imagery indicates that the local area (10 kilometre radius) surrounding the area under application retains approximately 85 per cent vegetation cover.

The vegetation under application contains vegetation in a very good to good (Keighery, 1994) condition, however given the vegetation representations outlined above, it is not likely to be a significant remnant in an extensively cleared area.

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

Pre-European	Current Extent (ha)	Remaining Extent in DEC Managed Lands (ha)	(%)	(%)
IBRA Bioregion*				
Warren	833,986	663,203	79	84
Shire*				
Shire of Manjimup	697,368	586, 905	84	93
Beard Vegetation Association in Bioregion*				
1144	159,668	128,224	80	92
3	250,263	196,094	78	87
Mattiske Vegetation Complex **				
Q	14,958.27	14,276	95	92
PM1	25,801.15	17,373	67	59
CRd	1,904.36	1,526	80	73
(Mattiske and Havel, 1998)**				
(Government of Western Australia, 2013)*				

Methodology

References:
- Commonwealth of Australia (2001)
- Government of Western Australia (2013)
- Mattiske and Havel (1998)

GIS Databases:
-NLWRA, Current Extent of Vegetation Remaining

(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 at variance to this Principle

A minor watercourse intersects the application area. A dam is also present within this watercourse.

A site inspection undertaken by DER (2014) identified riparian vegetation within the application area.

Therefore the clearing as proposed is at variance to this principle. Although this application includes riparian vegetation impacts to the watercourse are not likely to be significant.

Methodology

References:
- DER (2014)

GIS Databases:
- Hydrography, linear

(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 majority of the application area is mapped as soil type 'Uc1' which is described as: steep hilly to hilly dissected lateritic plateau with steep valley side slopes: chief soils are hard, and also sandy, neutral, and also acidic, yellow and yellow mottled soils, with conspicuous but relatively smaller areas of red earths. Associated are areas of block laterite, gravelly and bouldery and soils on tops of rises and their colluvial slopes (Northcote et al 1960 - 1968).

A small portion under application is mapped as soil type Wd8 which is described as: Gently undulating drainage divides developed on quartzite: chief soils are sandy acidic yellow mottled soils with leached sands often associated with deep deposits of water-worn quartz sand and grit (Northcote et al 1960 - 1968).

A site inspection undertaken by the Department of Agriculture and Food Western Australia (DAFWA) within Lot 5192 identified areas prone to eutrophication and waterlogging located along the watercourse located within the centre of the application area (Commissioner of Soil and Land Conservation 2012).

The Commissioner of Soil and Land Conservation (2012) advised that the clearing of riparian vegetation may result in a greater inflow of nitrates into the waterway. However, due to the soils present within the application area the risk of eutrophication is not expected to increase significantly. In addition the risk of waterlogging is unlikely to increase as the soil type is generally associated with waterway, groundwater discharge and shallow soils. Therefore further clearing is unlikely to increase the risk of waterlogging (Commissioner of Soil and Land Conservation 2012).

No salinity onsite was observed and it is considered unlikely for clearing within Lot 5192 to cause salinity (Commissioner of Soil and Land Conservation 2012).

The clearing proposed is not likely to cause or exacerbate wind or water erosion given the soil types present (Commissioner of Soil and Land Conservation 2012).

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

Methodology

References:
- Commissioner of Soil and Land Conservation (2012)
- Northcote et al (1960 - 1968)

GIS Databases:
- Hydrology, linear

(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 may be at variance to this Principle

Numerous nature reserves are located within the local area (10 kilometre radius). The closest being Donnelly State Forest and Greater Beedelup National Park located adjacent to the western side of Lot 5192. The clearing proposed is located approximately 20 metres from the Greater Beedelup National Park.

Given the close proximity of the application area to Greater Beedelup National Park, the clearing proposed may indirectly impact upon the conservation area through the spread of weeds and dieback. Weed and dieback management practices will help mitigate this risk.

Given the above the clearing as proposed may be 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

Proposal is not likely to be at variance to this Principle

A minor watercourse intersects the application area. A dam is also present within this watercourse.

The clearing proposed is likely to increase sedimentation into this watercourse. However given the proposed clearing is for the construction of a dam, the impact upon the watercourse is likely to be minimal and short term and the proposed clearing is not likely to cause a significant deterioration in the quality of surface water.

Groundwater salinity is mapped between 500 - 1000 milligrams per litre of Total Dissolved Solids (TDS) which is considered to be marginal. Given the low salinity levels the clearing of 5.4 hectares of native vegetation is not likely to cause deterioration in the quality of underground water.

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

Methodology

GIS Databases:
- Groundwater salinity
- Hydrography, linear

(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 Commissioner of Soil and Land Conservation (2012) advised that clearing within the soils present within the application area is unlikely to contribute to local flooding.

The clearing of 5.4 hectares of native vegetation is unlikely to cause or exacerbate the incidence or intensity of flooding.

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

Methodology

References:
- Commissioner of Soil and Land Conservation (2012)

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

Comments

The Shire of Manjimup (2014) has advised that the land is zoned by Local Planning Scheme No. 4 as 'Priority Agriculture' and planning approval for clearing of vegetation is not required in this zone. If the expanded edge of the dam and/or dam wall is to be less than 20 metres from a lot boundary shire planning approval for dam works will be required.

The Department of Water (DoW 2014) has advised that Lot 5192 is located within the Donnelly River and Tributaries Surface Water Area which is proclaimed under the Rights in Water and Irrigation Act 1914 (RIWI Act) for surface water management. DoW (2014) has received an application from the applicant for a RIWI Act section '11/17/21A Permit to Interfere With Bed and Banks' for the construction of a new dam. The applicant holds a current RIWI Act surface water licence, SWL166848(1), for the property. The applicant has also applied to increase the annual water entitlement of this licence to allow for the capacity of the new dam. DoW has advised that they have assessed both proposals and is likely to approve both RIWI Act applications subject to the grant of a clearing permit.

Methodology References:
- Shire of Manjimup (2014)
- Department of Water (2014)

4. References

Bio Diverse Solution (2014) Targeted Threatened Flora and Fauna Survey - Lot 5192 on Deposited Plan 229257, Yeagerup CPS 6108/1. Western Australia. DER Ref: A833233

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

Commissioner of Soil and Land Conservation (2012) Land Degradation Assessment Report. Department of Agriculture and Food, Western Australia. DEC ref A561044

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

Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.

DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/. Accessed June 2016

Department of the Environment (2013) Pseudocheirus occidentalis and Phascogale tapoatafa subsp. Tapoatafa in Species Profile and Threats Database, Department of the Environment, Canberra.

DER (2014) Site Inspection Report for Clearing Permit Application CPS 6108/1. Site inspection undertaken 4/06/2014. Department of Environment Regulation, Western Australia (DER Ref: A780622).

DoW (2014) Advice for Clearing Permit CPS 6108/1. Department of Water, Western Australia. DER Ref: A766532

Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, 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.

Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment 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, Technical Report 249. Department of Agriculture Western Australia, South Perth.

Shire of Manjimup (2014) Advice for Clearing Permit CPS 6108/1, Western Australia. DER Ref: A766039