GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS
Area Permit Number: 7506/1
File Number: DER2017/000309
Duration of Permit: 30 September 2017 to 30 September 2019

PERMIT HOLDER
Mr Richard and Mrs Naomi Cornwall

LAND ON WHICH CLEARING IS TO BE DONE
Lot 1411 on Deposited Plan 204096, Holt Rock
Lot 2515 on Deposited Plan 209979, Holt Rock

AUTHORISED ACTIVITY
The Permit Holder shall not clear more than 41.81 hectares of native vegetation within the area hatched yellow on attached Plan 7506/1.

CONDITIONS
1. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

(a) avoid the clearing of native vegetation;
(b) minimise the amount of native vegetation to be cleared; and
(c) reduce the impact of clearing on any environmental value.

Mathew Gannaway
MANAGER
CLEARING REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

4 September 2017

Plan 7506/1

Legend

- Imagery
- Clearing Instruments Activities
- Roads
- Local Government Authority

N

0 2km

1:50,000

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

..... Date 4/09/2017

Matthew Genneway

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

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Environment Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7506/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Mr Richard John Cornwall

1.3. Property details

Property: Lot 1411 on Deposited Plan 204096, Holt Rock
Lot 2515 on Deposited Plan 209979, Holt Rock
Local Government Authority: Kulin, Shire of
DER Region: Greater Swan
DPaW District: Great Southern
Localities: Holt Rock

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
41.81		Mechanical Removal	Improving farming efficiency

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 4 September 2017
Reasons for Decision: The clearing permit application was received on 23 February 2017, and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing may be at variance to clearing principles (a), (b) and (e) and is not likely to be at variance to the remaining clearing principles.

Through assessment it has been determined that the vegetation within the application area contains vegetation in a very good (Keighery, 1994) condition and is located within an extensively cleared area.

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

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
Three Beard vegetation associations have been mapped within the application area (Shepherd et al., 2001): Beard vegetation association 128 is described as bare areas; rock outcrops; Beard vegetation association 519 is described as Shrublands; mallee scrub, *Eucalyptus Eremophila*; and Beard vegetation association 2048 is described as Shrublands; scrub-heath in the Mallee Region.	The applicant proposes to clear up to 41.81 hectares of native vegetation within Lot 1411 on Deposited Plan 204096 and Lot 2515 on Deposited Plan 209979, Holt Rock, for the purpose of improving farming efficiency.	Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To Completely Degraded; No longer intact, completely/almost completely without native species (Keighery, 1994).	The condition of the vegetation in the application area was determined by a former Department of Environment Regulation (DER) site inspection on 18 May 2017 (DER, 2017). The vegetation within the application area ranges from very good (Keighery, 1994) condition, with areas in a degraded to completely degraded (Keighery, 1994) condition.

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 may be at variance to this Principle

The application is to clear 41.81 hectares of native vegetation within Lot 1411 on Deposited Plan 204096 and Lot 2515 on Deposited Plan 209979, Holt Rock, for the purpose of improving farming efficiency.

The applicant advised that the property is approximately 6,925 hectares in size, of which is 5,510 hectares is arable. The applicant also advised that there will still be significant areas left to maintain habitats and wildlife corridors on the property.

Native vegetation within the local area (10 kilometre radius – 47,857 hectares) has been extensively cleared, with 8,654 hectares (18 per cent) of pre-European vegetation remaining. The proposed clearing of 41.81 hectares is 0.48 per cent of the pre-European vegetation remaining. Vegetation extent in the local area is discussed further under Principle (e).

A site inspection conducted by DER officers identified that the vegetation within the application area can be separated into 5 different areas (DER, 2017):

Area 1 – Proteaceous heath in very good condition and a high diversity of flora species;
Area 2 – Casuarina scrub which has been impacted from weeds and is in a completely degraded to degraded (Keighery, 1994) condition;
Area 3 – Casuarina scrub through the middle and mallee in the northern section. The vegetation is in a completely degraded to good (Keighery, 1994) condition.
Area 4 – Small section of Salmon gums which the applicant advised will be retained. Shrubland is in a good (Keighery, 1994) condition.
Area 5 –The southern section is dominated by *Melaleuca* species and the northern section is dominated by Casuarina species. The vegetation is in a good to very good (Keighery, 1994) condition.

According to available databases, two rare and 39 priority flora species have been recorded within 20 kilometres of the application area. The closest mapped record is priority 1 species located 5968 meters from the application area and a priority 4 species located 7395 meters from the application area. As discussed under Principle (c), suitable habitat for the two rare flora species is not present within the application area. Suitable habitat for priority flora taxa may occur within the application area.

Thysanotus lavanduliflorus (Priority 1) is a caespitose perennial, herb with tuberous roots. It has been recorded on sand and sandy loam, largely between Hyden and Newdegate. It occurs in open mallee and low woodland with eucalypts. The Department of Biodiversity, Conservation and attractions (DBCA) advised that the DER site inspection identified potential habitat for *T. lavanduliflorus* within the open eucalypt woodland in the north of Area 3. Noting the isolated narrow strips of vegetation within the application area, it is unlikely that the vegetation would support sustainable habitat for the species in the longer term (DBCA, 2017).

Dampiera scaevolina (Priority 1) is an erect to ascending perennial, herb or shrub occurs on sandy and gravelly soils. There are 16 collections of this taxon in the WA Herbarium. DBCA advised that the two most recent records are 200 km and 230 km north-west of the application area, and were both also associated with granite outcropping. There is very limited information available to draw conclusions from, but the limited information available would suggest that the species may be associated with granite outcropping (DBCA, 2017). Given the broader distribution of this species, the application area is not likely to comprise significant habitat for this species.

Rinzia torquata (Priority 3) is a shrub growing up to 1.7m high with pink flowers and is largely known from east of Merredin, with additional disjunct collections 80 km southeast. It is unknown whether there are more populations between these disjunct locations. It has a known range of approximately 150 km north-south and 150 km east-west. DBCA advised that the application area falls within the known range of species and there may be potential habitat for this species within the application area. DBCA stated that "If it were to occur within the application area, impacts would be unlikely to be significant to the conservation of the species" (DBCA, 2017).

Banksia xylothemelia (Priority 3) is an often sprawling, lignotuberous shrub, growing to 1 m high, sometimes suckering. DBCA advised the species has a range of 200 km north-south and 250 km east-west and is known from numerous locations, including some populations within nature reserves. DBCA stated that "if the species were to be recorded within the application area, impacts would be unlikely to be significant to the conservation of this species" (DBCA, 2017).

As discussed under Principle (b), the application area is located within the Carnaby's cockatoo known breeding range and contains Proteaceous species that provide suitable foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*; rare or likely to become extinct under the *Wildlife Conservation Act 1950*) (DER, 2017). The vegetation may also comprise of suitable habitat for ground dwelling fauna.

Given the application provides foraging habitat for Carnaby's cockatoo, may contain priority flora, and the local area has been extensively cleared, the application area may comprise a high level of biological diversity.

Given the above, the proposed clearing may be at variance to this Principle. Given the native vegetation proposed to be cleared is 0.48 per cent of the pre-European vegetation remaining and the proposed clearing is not likely to be significant to the conservation of priority flora species, the proposed clearing is not likely to have any significant environmental impacts.

Methodology

References:
DBCA (2017)
DER (2017)
Keighery (1994)
GIS Database:
- Aerial imagery
- Remnant vegetation
- SAC bio datasets (accessed March 2017)

(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

According to available databases, two conservation significant fauna species and three priority species have been recorded within a 20 kilometre radius, being; Heath Mouse (*Pseudomys shortridgei)*, Malleefowl (*Leipoa occellata*), Western Brush Wallaby (*Macropus irma*), Lake Cronin Snake (*Paroplocephalus atriceps*) and Western Rosella (inland) (*Platycercus icterotis* subsp. *xanthogenys*) (Parks and Wildlife, 2007-). The application area is also mapped within the breeding range for Carnaby's cockatoo (*Calyptorhynchus latirostris*).

Carnaby's cockatoos forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia, Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008).

As discussed in Principle (a), a site inspection identified that the application area comprises of proteaceous heath, Casuarina scrub, Mallee shrublands and melaleuca heath. The vegetation condition ranges from very good in Area 1 to completely degraded (Keighery, 1994) condition (DER, 2017; CSLC, 2017). Noting the presence of nearby remnant vegetation that has undergone lesser historical disturbance, such as Nature Reserve (CR 29451) (located 300 metres south) which covers an area of approximately 253 hectares, the application area is unlikely to provide significant foraging habitat for black cockatoos.

'Breeding habitat' for Carnaby's cockatoo 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). No potential breeding trees or hollows were identified during the site inspection (DER, 2017). Noting this, the application area is not likely to contain breeding habitat for black cockatoos.

The Heath Mouse is known to occupy variable habitats. In Western Australia it prefers mature stands of scrub mallee and mixed scrub with *Banksia* on loamy soils, unburnt for at least 30 years (DEC, 2012a). This type of habitat was not present within the application area.

The Western Brush Wallaby's optimum habitat is open forest or woodland, particularly favouring open, seasonally-wet flats with low grasses and open scrubby thickets. It is also found in some areas of mallee and heath-land, and is uncommon in karri forest (DEC, 2012b). This type of habitat was not present within the application area.

The native vegetation within application area is likely to function as an ecological linkage for ground dwelling fauna, to the other remnants of native vegetation within the local area. Noting that native vegetation corridors will remain within the local area, and on the applicant's property, the proposed clearing of 41.81 hectares is not going to severely impact the ability of ground dwelling fauna to move within the landscape.

Given the impacts to an ecological linkage, suitable foraging habitat for Carnaby's cockatoo and habitat for ground dwelling fauna, the proposed clearing may be at variance to this Principle.

Methodology

References:
Commonwealth of Australia (2012)
DEC (2012a)
DEC (2012b)
DER (2017)
Keighery (1994)
Parks and Wildlife (2007-)
Valentine and Stock (2008)

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

According to available databases, two rare flora species have been recorded within 20 kilometres of the application area.

The first rare flora species is confined to rocky ironstone hills, growing in cracks in the rock. The species inhabits low eucalypt woodland, mallee scrub and heath. This species is only known from 3 locations all of which are threatened by mineral exploration (Brown et al., 1998).

The second rare flora species inhabits very shallow soils on exposed granite outcrops (Brown et al., 1998).

Suitable habitat for both species is not present within the application area.

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

Methodology

References:
Brown et al. (1998)

GIS Databases:
SAC Bio Datasets (Accessed May 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 datasets, no threatened ecological communities (TEC) have been recorded within the local area (20 kilometre radius). Therefore, the proposed clearing is not likely to comprise of, or be necessary for the maintenance of a TEC.

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

Methodology

GIS Databases:
SAC Bio Datasets (Accessed July 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 may be at variance to this Principle

The application area is located within the Mallee Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 56 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2016).

The local area (10 kilometre radius - 47,857 hectares) has been extensively cleared, with 8,654 hectares (18 per cent) of pre-European vegetation remaining, as well as within the Shire of Kulin (16 per cent). The proposed clearing of 41.81 hectares is 0.48 per cent of the pre-European vegetation remaining.

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 application area is mapped as Beard vegetation associations 128, 519 and 2048, which all have greater than 30 per cent of its pre-European extent remaining in the Mallee bioregion (Government of Western Australia, 2016).

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*: Mallee	7,395,894	4,181,002	56	31
Shire*: Shire of Kulin	471,891	76,041	16	36
Beard vegetation association in Bioregion*				
128	47,855	31,551	66	34
519	2,100,313	1,248,661	59	18
2048	313,728	154,944	49	16

The application area comprises of native vegetation in a very good (Keighery, 1994) to completely degraded condition (DER, 2017). Given the local area is extensively cleared, the vegetation within the application area may be significant as a remnant for flora and fauna in an area that has been extensively cleared.

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

Methodology References:
DER (2017)
Commonwealth of Australia (2001)
Government of Western Australia (2016)*
Keighery (1994)

GIS Databases:
- Imagery
- 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 not likely to be at variance to this Principle**
There are no watercourses or wetlands mapped within the application area or surrounds. The closest mapped wetland is located 48 metres from the application area which is associated with a granite outcrop. A DER site inspection did not note the presence of any wetland or watercourse within the application area (DER, 2017).

Give the above, the vegetation within the application area is not likely to be growing in or in association with a watercourse or wetland, and the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
DER (2017)

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 **Proposed clearing is not likely to be at variance to this Principle**
The application area has been mapped as the following soil types (Schoknecht et al., 2004):

- Hyden Sandplain 2 Subsystem (approximately 90 per cent of the application area): Gently undulating mainly grey lateritic sandplain containing iron stone gravelly soils with associated brown yellow sandy and loamy and sandy earths, interspersed with grey alkaline sodic duplexes;
- Hope South 1 Subsystem (approximately 5 per cent of the application area): Alluvial deposits differentiated as red and brown calcareous loamy earths, and yellow and grey sandy duplexes (often alkaline) ; and
- Hyden 3 Granite Phase (approximately 5 per cent of application area): Granitic country around outcrops.

The Commissioner of Soil and Land Conservation (Commissioner) arranged a site inspection which was conducted by the former Department of Agriculture and Food Western Australia (DAFWA) on 18 May 2017. DAFWA provided a land degradation report based on the results of the inspection.

The land degradation report noted that the risk of salinity, wind erosion, eutrophication, water erosion, flooding and waterlogging causing land degradation is low (CSLC, 2017).

The Commissioner advised "that the application areas are generally located on the mid and upper slope positions of the landscape and have been mapped by DAFWA to be mainly Hyden Sandplain 2 subsystem, map unit 250Hy_2. The soils are described as gently undulating mainly grey lateritic sandplain containing ironstone gravelly soils with associated brown yellow sandy, loamy and sandy earths, interspersed with grey alkaline sodic duplexes" (CSLC, 2017).

The Commissioner advised that the "vegetation is proteaceous heath on well-developed gravelly sandplain and casuarinaceous (mainly campestris sp) scrub on the patches of yellow gravelly sands and earths. The vegetation condition ranges from very poor to good as a result of grazing" (CSLC, 2017).

The Commissioner advised that the land degradation risks associated with this land clearing is assessed to be low (CSLC, 2017). The Commissioner concluded that the proposal is unlikely to cause appreciable land degradation and therefore, is unlikely to be at variance with this Principle (CSLC, 2017).

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

Methodology References:
DER (2017)
CSLC (2017)
Keighery (1994)
Schoknecht et al. (2004)

GIS Database:

- Hydrography, linear
- Remnant vegetation
- Soils, statewide
- Groundwater salinity
- Land Degradation datasets

(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

According to available databases, one conservation area has been mapped within the local area (10 kilometre radius). Nature Reserve (CR 29451) is located 300 meters south of the most eastern 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 this conservation area.

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

Methodology

GIS Databases:
- DPaW estate
- Remnant vegetation

(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

There are no watercourses or wetlands mapped within the application area or surrounds. The closest mapped wetland is located 48 metres from the application area which is associated with a granite outcrop. The proposed clearing is not likely to impact on surface water quality.

Groundwater salinity within the application area is mapped as 14,000 to 35,000 milligrams per litre (measured as Total Dissolved Solids) (highly saline).

The DAFWA land degradation report noted that "salinity in the surrounding area is generally associated with saline lakes and waterways (generally nearest) that drain into them. The removal of native vegetation is not expected to have an effect on salinity in the general area" (CSLC, 2017).

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

Methodology

References:
CSLC (2017)

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

DAFWA has mapped the application area as less than three per cent of the above mentioned soil systems (see Principle (g)) have a moderate to high flood risk, the lowest risk category (Schoknecht et al., 2004).

The DAFWA land degradation report noted that the clearing of native vegetation is not expected to contribute to flooding (CSLC, 2017).

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

Methodology

References:
CSLC (2017)
Schoknecht et al. (2004)

GIS Database:
- Hydrography, linear
- Land Degradation datasets

Planning instruments and other relevant matters.

Comments

The clearing permit application was advertised in *The West Australian* newspaper on 27 March 2017 and on DER's website on 23 March 2017, for a 21 day public submission period. No submissions were received in relation to this application.

There are no Aboriginal Sites of Significance mapped within the application area. It is the applicant's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

The Shire of Kulin advised they had no comment to make. The Shire of Kulin advised that the proposal would not trigger the requirement for a planning approval – therefore no assessment is made on whether the application is or is not consistent with TPS2 (Shire of Kulin, 2017)

Methodology

References:
Shire of Kulin (2017)

GIS Databases:
- Aboriginal Sites of Significance

4. References

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

Commissioner of Soil and Land Conservation (CSLC) (2017) Land degradation assessment report for Clearing Permit Application CPS 7506/1. Department of Agriculture and Food Western Australia (DER Ref: A1446020).

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.

Department of Biodiversity, Conservation and Attractions (DBCA) (2017) Advice received on 7 August 2017. Department of Parks and Wildlife (DER Ref: A1500110).

Department of Environment and Conservation (2012a) Fauna profiles – Heath Mouse Pseudomys shortridgei *(Thomas, 1907)*. Department of Environment and Conservation, Perth, Western Australia.

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Department of Environment Regulation (DER) (2017) Site Inspection Report for CPS 7506/1. Department of Environment Regulation. Western Australia (DER Ref: A1468626).

Department of Parks and Wildlife (Parks and Wildlife) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/. Accessed 31/05/2017

Government of Western Australia (2016). 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. 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.

Schoknecht, N., Tille, P. and Purdie, B. (2004) Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs' Resource Management Technical Report No. 280. Department of Agriculture.

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.

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Valentine L. and Stock W. (2008) Food Resources of Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*) in the Gnangara Sustainability Strategy study area. Unpublished report to the Forests Products Commission. Available from: http://ro.ecu.edu.au/ecuworks/6147.