



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1996

Purpose Permit number:	CPS 6040/1
Permit Holder:	Shire of Mundaring
Duration of Permit:	20 December 2014 to 20 December 2024

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of extracting gravel.

2. Land on which clearing is to be done

Lot 28654 on Deposited Plan 183302 (Reserve 36125), The Lakes

Lot 29087 on Deposited Plan 191171 (Reserve 36125), The Lakes

3. Area of Clearing

The Permit Holder must not clear more than 1.5 hectares of native vegetation within the area hatched yellow on attached Plan 6040/1(a).

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Direction of clearing authorised

Clearing shall be conducted from south west to north east to minimise the spread of dieback.

6. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 20 December 2019.

7. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent the Permit Holder has the power to carry out works involving clearing for activities under the *Local Government Act 1995* or any other written law.

PART II – MANAGEMENT CONDITIONS

8. 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:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

9. 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 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;
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (d) only move soils in *dry conditions*; and
- (e) where *dieback* affected soil, *mulch*, *fill* or other material is to be removed from the area to be cleared, ensure it is transferred to areas of comparable *soil disease status*.

10. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit, excluding the area hatched red on attached Plan 6040/1(b), and stockpile the vegetative material and topsoil in an area that has already been cleared. The vegetative material and topsoil removed from the area hatched red on attached Plan 6040/1(b) must be taken offsite and appropriately disposed of to reduce the potential spread of dieback.
- (b) at an *optimal time* following the completion of works authorized under this permit *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) ripping the pit floor and contour batters within the extraction site; and
 - (iv) laying the vegetative material and topsoil retained under condition 10(a) on the cleared area(s).
 - (v) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area; and
 - (vi) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.
- (c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 10(b) of this Permit:
 - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 10(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.
- (d) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 10(c)(ii) of this permit, the Permit Holder shall repeat condition 10(c)(i) and 10(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 10(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 10(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 10(c)(ii).

PART III - RECORD KEEPING AND REPORTING

11. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the species composition, structure and density of the cleared area;
 - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (iii) the date that the area was cleared; and
 - (iv) the size of the area cleared (in hectares).

- (b) In relation to *revegetation* and *rehabilitation* of areas pursuant to condition 10 of this Permit:
 - (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) details of the offsite location of the vegetative material and soil removed from the area hatched red on attached Plan 6040/1(b).
 - (iii) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iv) the size of the area *revegetated* and *rehabilitated* (in hectares);
 - (v) the species composition, structure and density of *revegetation* and *rehabilitation*, and
 - (vi) a copy of the environmental specialist's report.

12. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 11 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out must be provided to the CEO on or before 30 June each year.
- (c) Prior to 20 September 2024, the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 12(a) of this Permit.

DEFINITIONS

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

dieback means the effect of *Phytophthora* species on native vegetation;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

dry conditions means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

environmental specialist means a person who holds a tertiary qualification in environmental science or equivalent, has experience relevant to the type of environmental advice that an environmental specialist is required under this Permit, or who is approved by the CEO as a suitable environmental specialist;

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

local provenance means native vegetation seeds and propagating material from natural sources within 20 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.

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;

optimal time means the period from April to May for undertaking *direct seeding*;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within topsoil or seed-bearing *mulch*;


rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

soil disease status means soil types either infested, not infested, uninterpretable or not interpreted with a pathogen.

weed/s means any plant -

- (a) that is a declared pest under section 22 of *Biosecurity and Agriculture Management Act 2007*;
- (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 1996*

25 November 2014

Plan 6040/1(a)



LEGEND

- Local Government Authorities
- Road Centrelines
- Cadastre
- Clearing Instruments
- Areas Approved to Clear
- Perth Metropolitan Central 15cm Orthomosaic - Landgate 2011

• Project Data is denoted by asterisk.
This data has not been quality assured.
Please contact map author for details.

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Scale 1:4750
(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.

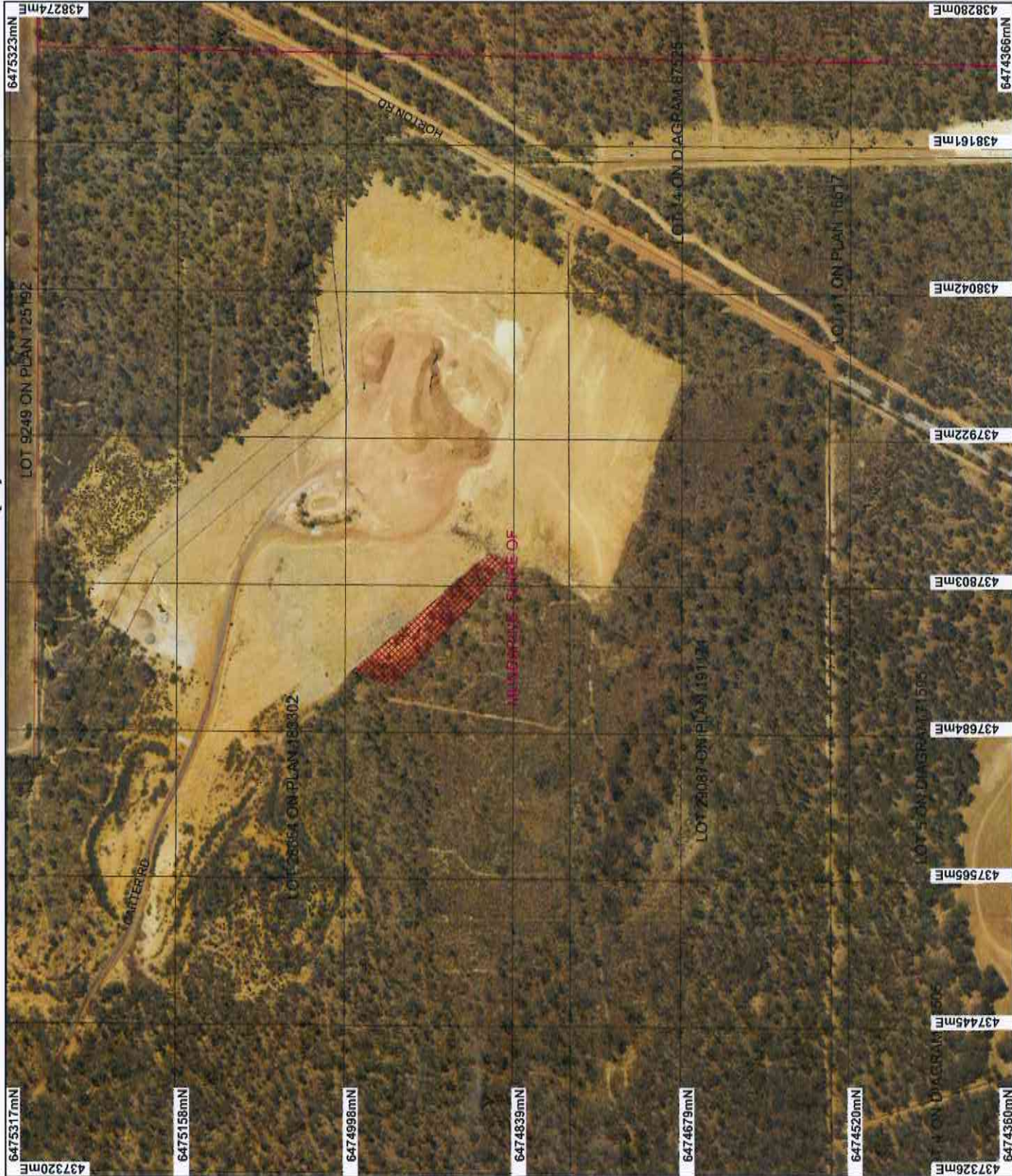
M Wilmock Date *25/11/14*

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 acknowledged by the agency acronym in the legend.

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Department of Environment Regulation
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Plan 6040/1 (b)



LEGEND

- Local Government Authorities
- Road Centrelines
- Cadastre
- Clearing Instruments
- Areas Subject to Conditions
- Perth Metropolitan Control 15cm Orthomosaic - Lanigate 2011

* Project Data is depicted by asterisk.
This data has not been quality assured.
Please contact map author for details.



Scale 1:4605
(Approximate when reproduced at A4)

Geocentric Datum Australia 1984

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

M Warnock Date 25/11/14

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 acknowledged by the agency acronym in the legend.



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Department of Environment Regulation
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Clearing Permit Decision Report

Government of Western Australia
Department of Environment Regulation

1. Application details

1.1. Permit application details

Permit application No.: 6040/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Mundaring

1.3. Property details

Property: LOT 28654 ON PLAN 183302 (Lot No. 28654 HORTON THE LAKES 6556)
LOT 29087 ON PLAN 191171 (Lot No. 29087 HORTON THE LAKES 6556)
Local Government Area: Shire of Mundaring

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.5		Mechanical Removal	Extractive Industry

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 Association 3003 is described as medium forest consisting of jarrah & marri on laterite with wandoo in valleys and sandy swamps with tea tree and Banksia (Shepherd et al, 2001).	The proposed clearing consists of 1.5 hectares of native vegetation within Lot 29087 on Deposited Plan 191171 and Lot 28654 on Deposited Plan 1833002, The Lakes, for the purpose of expanding Beechina gravel pit, which has been operational since the 1970's.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The application originally included 10 hectares of native vegetation, however the proponent has reduced the application area to minimise environmental impact. The condition and description of the vegetation was determined via a site inspection undertaken by the Department of Environment Regulation (DER, 2014) and a Flora and Vegetation Assessment undertaken by Del Botanics (2014). The vegetation under application comprises three vegetation communities (Del Botanics, 2014): Vegetation Community 1 is comprised of Low woodland of <i>Corymbia calophylla</i> and <i>Eucalyptus marginata</i> , over tall open shrubland of <i>Xanthorrhoea preissii</i> over low shrubland of <i>Banksia armata</i> , <i>Hibbertia hypericoides</i> , <i>Calothamnus sanguineus</i> and <i>Hakea incrassata</i> . Vegetation Community 2 is comprised of low woodland of <i>Eucalyptus marginata</i> , over tall closed scrub of <i>Kunzea recurva</i> over low open shrubland of <i>Hibbertia hypericoides</i> , <i>Calothamnus sanguineus</i> and <i>Adenanthos cygnorum</i> . Vegetation Community 3 is comprised of low shrubland of <i>Hakea erinacea</i> , <i>Lyginia barbata</i> , <i>Calytrix glutinosaa</i> and <i>Desmocladius asper</i> .
Mattiske Vegetation Pindalup (Pn) Complex consists of open forest of <i>Eucalyptus marginata</i> and <i>Corymbia calophylla</i> on slopes and open woodland of <i>Eucalyptus wandoo</i> with some <i>Eucalyptus patens</i> on the lower slopes in semi arid and arid zones (Mattiske and Havel, 1998).			
Mattiske Vegetation Yalanbee (Y5) Complex consists of a mixture of open forest of <i>Eucalyptus marginata</i> and <i>Corymbia calophylla</i> and woodland of <i>Eucalyptus wandoo</i> on lateritic uplands in semiarid to perarid zones (Mattiske and Havel, 1998).			

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 proposed clearing consists of 1.5 hectares of native vegetation within Lot 29087 on Deposited Plan 191171 and Lot 28654 on Deposited Plan 183302, The Lakes, for the purpose of expanding Beechina gravel pit. The majority of the vegetation under application is in very good (Keighery, 1994) condition (DER, 2014). The proponent has reduced the size of the original application area from 10 hectares to 1.5 hectares to minimise environmental impact.

The vegetation under application is comprised of *Corymbia calophylla* and *Eucalyptus marginata* woodland, over tall open shrubland of *Xanthorrhoea preissii* and *Xanthorrhoea gracilis* and low shrubland including *Hibbertia hypericoides*, *Calothamnus sanguineus* and *Hakea incrassata*. There is a large area of mixed low shrubland comprised of *Hakea erinacea*, *Lygnia barbata*, *Calytrix glutinosa* and *Desmodium asper* within the southern portion of the application area (DER, 2014 and Del Botanics, 2014).

There is one rare flora species and several priority flora species mapped within the local area (10 kilometre radius). The closest priority species (priority 4) is mapped approximately two kilometres south east of the application area on the same soil and vegetation type. The closest rare flora species is mapped approximately 10 kilometres south west of the application area.

A Flora and Vegetation Assessment of the site undertaken in March 2009 identified one priority (priority 3) flora species (Del Fante, 2009). A targeted flora survey of the application area undertaken in December 2013 by Del Botanics (2014) did not identify the presence of any rare or priority flora species on site.

There are no threatened or priority ecological communities mapped within the local area (10 Kilometre radius).

The application area contains *Corymbia calophylla*, *Eucalyptus marginata* and *Eucalyptus wandoo* which provide suitable foraging habitat for forest red-tailed black-cockatoo (*Calyptorhynchus banksii* subsp. *naso*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and Carnaby's cockatoo (*Calyptorhynchus latirostris*) all listed as 'rare or likely to become extinct' under the Wildlife Conservation Act 1950 (DER, 2014).

A fauna survey of the application area identified three trees on site with the potential to provide breeding habitat for the abovementioned black cockatoos, however the trees did not show any signs of breeding activity (Western Wildlife, 2014).

There is approximately 60 per cent native vegetation remaining in the local area (10 kilometre radius) of the proposed clearing.

Dieback disease caused by *Phytophthora cinnamomi* has been confirmed within Crown Reserve 36125 (Dieback Treatment Services, 2010). *P. cinnamomi* is considered to be widespread throughout Crown Reserve 36125 with a significant portion identified in the western half of this Reserve. The infected area also includes a small portion of the application area (northern border) closest to the existing pit (Dieback Treatment Services, 2014). The proposed clearing will increase the risk of dieback and weeds spreading into adjacent unaffected vegetated areas, as well as being transported offsite. The Shire has a commitment to adhering to a Dieback Management Plan adopted from the Managing *Phytophthora* Dieback Guidelines for Local Government (EMRC, 2014).

Given that the size of application area has been significantly reduced, and that no priority or rare flora or threatened or priority ecological communities have been identified within the application area, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:

- Del Botanics (2014)
- Del Fante (2009)
- DER (2014)
- EMRC (2014)
- Keighery (1994)
- Dieback Treatment Services (2010)
- Dieback Treatment Services (2014)

GIS Databases:

- SAC Bio Datasets (Accessed May 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

Several fauna species of conservation significance have been recorded within the local area (10 kilometre radius), including, *Calyptorhynchus banksii* subsp. *naso* (forest red-tailed black-cockatoo), *Calyptorhynchus baudinii* (Baudin's cockatoo), *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Dasyurus geoffroyi* (chuditch), *Idiosoma nigrum* (shield-backed trapdoor spider), *Leipoa ocellata* (malleefowl), *Macrotis lagotis* (bilby), *Macropus irma* (Western brush wallaby) and *Morelia spilota imbricata* (carpet python) (DEC, 2007-).

Forest red-tailed black cockatoo, Baudin's cockatoo and Carnaby's cockatoo have a preference for foraging habitat that includes jarrah and marri woodland 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 area is largely comprised of jarrah, marri and wandoo open woodland (DER, 2014, Del Botanics 2014), therefore preferable foraging habitat is located on site for these species. However, given that the application area is relatively small (1.5 hectares), and is surrounded by large areas of existing remnant vegetation, including 91 hectares immediately adjacent (west) and the extensive Mundaring State Forest (1.5 kilometres south west), it is not likely that the vegetation under application provides significant foraging habitat for black cockatoos

A site inspection (DER, 2014) revealed the presence of several large jarrah and marri trees on site with hollows that may provide suitable breeding habitat for all three of the abovementioned species of black cockatoo. A fauna survey of the amended application area identified three trees with hollows that may be suitable for black cockatoo breeding habitat. There was no evidence of breeding identified during the survey (Western Wildlife, 2014).

The Shire of Mundaring has reduced the size of the initial application area by 8.5 hectares, to reduce impacts to black cockatoos. There will also be a requirement for the proponent to undertake revegetation works post extraction which will help to mitigate long term impacts to foraging habitat for black cockatoos.

Malleefowl prefer habitat consisting of shrubland and low woodland on sandy or loamy soils that receive 200 to 450 millimetres of rainfall each year and bilby's require sandy or loamy soil in which to burrow, with a particular preference for sandy dunes (DotE, 2013). Given that the most recent record for the abovementioned species within the local area was taken in 1972, it is unlikely that these species have persisted in the landscape.

The Western brush wallaby has a preference for open forest or woodland, particularly favouring open, seasonally-wet flats with low grasses and open scrubby thickets (DotE, 2013). The application area does not contain any seasonally wet flats and given the presence of large areas of remnant vegetation to the south, it is not likely that the application area contains significant habitat for this species.

The chuditch has been recorded approximately 800 metres south of the area under application. In jarrah forest, chuditch utilise horizontal hollow logs or earth burrows as dens or refuge. To be suitable as den sites, logs must have a diameter of at least 30 centimetres but usually greater than 50 centimetres, a hollow diameter of 7 to 20 centimetres and generally one metre long. Large horizontal logs were present on site, therefore this species may utilise the application area (DotE, 2014). However, this species occupies large home ranges, is highly mobile and is unlikely to be impacted upon by the proposed clearing.

The application area may contain suitable habitat for the carpet python (Western Wildlife, 2014), however given the small area of proposed clearing and large areas of intact remnant vegetation nearby, the vegetation under application is not likely to provide significant habitat for this species.

Targeted surveys for invertebrate fauna and particularly trapdoor spiders indicate that a new species of trapdoor spider (*Gaius* sp.) may have been discovered within a neighbouring property. A trapdoor spider report which included the area of proposed clearing undertaken by Biota Environmental Services in 2007 did not identify any active burrows of this species within the application area.

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

Methodology	References: -DEC (2007-) -DER (2014) -Del Botanics (2014) -DotE (2013) -Cockerill et al (2013) -Commonwealth of Australia (2012) -Biota Environmental Services (2007) -Western Wildlife (2014)
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(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**
The closest mapped rare flora is a spinescent, glaucous shrub located approximately 10 kilometres south west of the area under application (West Australian Herbarium, 1998-).

A Flora and Vegetation Assessment of the application area undertaken in March 2009 (Del Fante, 2009) and a targeted flora survey undertaken in December 2013 by Del Botanics (2014) did not identify the presence of any rare flora species on site.

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

Methodology References:
 -Del Botanics (2014)
 -Del Fante (2009)
 -Western Australian Herbarium (1998-)

GIS Databases:
 -SAC Bio Datasets (Accessed May 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 mapped threatened ecological communities (TEC) within the local area (10 kilometre radius). The nearest recorded TEC is Floristic Community Type (FCT) 3c, known as 'Corymbia calophylla - Xanthorrhoea preissii woodlands and shrublands' located approximately 27 kilometres west of the area under application.

This TEC generally occurs on the heavier clays of the Pinjarra Plain/Guildford Clays (eastern side of the Swan Coastal Plain) and is not likely to occur on the Darling Plateau, where the application area is located. Given the above the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
 -SAC Bio Datasets (Accessed May 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 at variance to this Principle**
 The vegetation within the application area is identified as a component of Beard Vegetation Association 3003 and Yalenbee Mattiske Vegetation Complex, of which there is approximately 61 per cent and 68 per cent Pre-European extent remaining respectively (Government of Western Australia, 2013 and 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). The abovementioned vegetation associations are above the recommended minimum of 30 per cent representation.

Given the relatively high representation of remnant vegetation within the Beard and Mattiske Vegetation Associations and the extensively vegetated local area (10 kilometre radius) with approximately 65 per cent native vegetation remaining, the area under application is not considered to be located within an extensively cleared area.

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

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Jarrah Forest	4,506,660	2,457,731	54	68
Shire of Mundaring*	64,371	43,416	67	51
Beard Vegetation Association*				
3003	66,451	39,495	59	46
Mattiske Vegetation Complex**				
Yalenbee (Y5)	124,376	84,654	68	39

* (Government of Western Australia, 2013)
 ** (Mattiske and Havel, 1998)

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

GIS Databases:
 -NLWRA, Current Extent of 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 **Proposal is not likely to be at variance to this Principle**
There are no wetlands or watercourses located within the area under application. The closest mapped watercourses to the application area are minor, non perennial watercourses (tributaries of Wooroloo Brook) located approximately 815 metres east and 1.2 kilometres west of the area under application.

Given the distance to the closest mapped watercourse or wetland, and that the site inspection did not reveal the presence of any riparian vegetation (DER, 2014), the proposed clearing is not likely to be at variance to this Principle.

Methodology **References:**
-DER (2014)

GIS Databases:
-Hydrography, linear
-Hydrography, hierachy
-Geomorphic Wetlands, Swan Coastal Plain

(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**
Soil landscape mapping identifies the area under application as Wundowie, Cook sub-system, which is described as residual granite, laterite and duricrust crests, shallow clayey sands and loams derived from granite and gneiss (Chittering Landcare Group, 2006). These soils are considered to be at low risk of wind erosion and high risk of water erosion if not managed correctly (Chittering Landcare Group, 2006).

Given the distance to the nearest watercourse, and the moderate annual rainfall for the local area (700 millimetres), it is not likely that water erosion resulting in appreciable land degradation would occur.

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

Methodology **References:**
-Chittering Landcare Group (2006)

GIS Databases:
-Rainfall, Mean Annual

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposal is not at variance to this Principle**
There are two conservation reserves within the local area (10 kilometre radius). Mundaring State Forest is located approximately 1.5 kilometres south west and Beechina Nature Reserve is located 1.8 kilometres west of the area under application.

Given the extensively vegetated surrounding area and relatively small size of the application area, it is considered that the proposed clearing will not impact on the environmental values of the conservation areas.

The proposed clearing is not at variance to this Principle.

Methodology **GIS Databases:**
-DEC 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**
There are no wetlands or watercourses located within the area under application. The closest mapped watercourses to the application area are minor non perennial watercourses (tributaries of Wooroloo Brook) located approximately 815 metres east and 1.2 kilometres west of the area under application.

Given the distance to the closest mapped watercourse or wetland, it is not likely that the proposed clearing will result in the deterioration of surface water.

Groundwater salinity mapped within the application area is between 500 to 1000 milligrams per litre (marginal). Given this low salinity level and that the surrounding area is well vegetated, it is not likely that the proposed clearing will lead to a perceptible rise in the watertable and thus an increase in groundwater salinity levels.

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

Methodology GIS Databases:
-Hydrography, linear
-Hydrography, hierachy
-Geomorphic Wetlands, Swan Coastal Plain
-Groundwater Salinity, Statewide

(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 at variance to this Principle

There are no wetlands or watercourses located within the area under application. The closest mapped watercourses to the application area are minor non perennial watercourses (tributaries of Woorlooloo Brook) located approximately 815 metres east and 1.2 kilometres west of the area under application.

Given the mapped soil types and the distance to the nearest water bodies, the proposed clearing will not cause or exacerbate the incidence or intensity of flooding.

The proposed clearing is not at variance to this Principle.

Methodology GIS Databases:
-Hydrography, linear
-Hydrography, hierachy
-Geomorphic Wetlands, Swan Coastal Plain
-Groundwater Salinity, Statewide

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

Comments

The proposed clearing is for the purpose of expanding Beechina gravel pit, which has been operational since the 1970's. A permit was originally granted (CPS 2886/1) for the current application area in March 2009, whereby approximately 2.53 hectares was removed. This permit expired in March 2014 and hence a new application has been submitted for the remainder of the area.

The proponent has amended the application area to minimise environmental impact by reducing the size of proposed clearing from 10 hectares to 1.5 hectares.

Lot 28654 and Lot 29087 are part of Crown Reserve 36125, which is vested with the Shire of Mundaring for the purpose of gravel extraction.

The Western Australian Statement of Planning Policy No 2.4 - Basic Raw Materials: identifies Crown Reserve 36125 as being an extraction area or an existing extraction area of basic raw material.

No submissions from the public have been received for the proposed clearing.

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