



## **CLEARING PERMIT**

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 5319/1
<b>Permit Holder:</b>	Mario Michele Giacci and Allmoon Nominees Pty Ltd
<b>Duration of Permit:</b>	7 February 2015 to 2 October 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 sand extraction.

**2. Land on which clearing is to be done**

Lot 265 on Deposited Plan 232768 (North Boyanup 6237)

**3. Area of Clearing**

The Permit Holder must not clear more than 4.98 hectares of native vegetation within the area hatched yellow on attached Plan 5319/1.

**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. Period in which clearing is authorised**

The Permit Holder shall not clear any native vegetation after 2 October 2019.

### **PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES**

**6. 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.

## 7. 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) shall only move soils in *dry conditions*;
- (c) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (d) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

## 8. Fauna management

Prior to undertaking any clearing authorised under this Permit, the area cross-hatched yellow on attached Plan 5319/1, shall be inspected by a *fauna specialist* who shall:

- (a) identify *habitat trees* suitable to be utilised by Western Ringtail Possums (*Pseudocheirus occidentalis*);
- (b) inspect habitat trees identified by condition 8(a) for the presence of Western Ringtail Possums (*Pseudocheirus occidentalis*); and
- (c) within one week prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna clearing person* to remove and relocate fauna identified under condition 8(b).

## 9. Revegetation and Rehabilitation

The Permit Holder shall:

- (a) within six months following completion of works authorised under this Permit and no later than 2 October 2019 *revegetate* and *rehabilitate* the areas cross-hatched red on attached Plan 5319/1 by:
  - (i) ripping the ground on the contour to remove soil compaction;
  - (ii) deliberately *planting* and/or *direct seeding* native vegetation that will result in an average species density of 2500 stems per hectare; and
  - (iii) deliberately *planting* and/or *direct seeding* native vegetation that will result in over storey, middlestorey and understorey species representative of the local area (10 kilometre radius);
- (b) within 24 months of undertaking *revegetation* and *rehabilitation* in accordance with condition 9(a) 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 9(b)(i) of this Permit will not result in the species composition, structure and density specified under condition 9(a)(ii) and 9(a)(iii), the Permit Holder must undertake additional *planting* or *direct seeding* of native vegetation in accordance with the requirements of condition 9(a) of this Permit.
- (c) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 9(b)(ii) of this permit, the Permit Holder shall repeat condition 9(b)(i) and 9(b)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (d) 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 as specified in condition 9(a)(ii), and as determined in condition 9(b)(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 9(b)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 9(a).

## 10. Records to be kept

- (a) In relation to fauna management pursuant to condition 8 of this Permit:
  - (i) the location of each *habitat tree* identified 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) the location where each identified Western Ringtail Possum (*Pseudocheirus occidentalis*) was relocated to; recorded using a GPS unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees
- (b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 9 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) a description of the *revegetation* and *rehabilitation* activities undertaken;
  - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares);
  - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*, and
  - (v) a copy of the environmental specialist's report.

## 11. 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 10 of this Permit; and
  - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding 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 of each year.
- (c) Prior to 2 July 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 11(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, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the CEO as a suitable environmental specialist;

**fauna clearing person** means a person who has obtained a licence from the Department of Parks and Wildlife, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

**fauna specialist:** means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*;

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

**habitat tree(s)** means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater, that contains or has the potential to develop hollows or roosts suitable for native fauna;

**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;

**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 the 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.

**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.



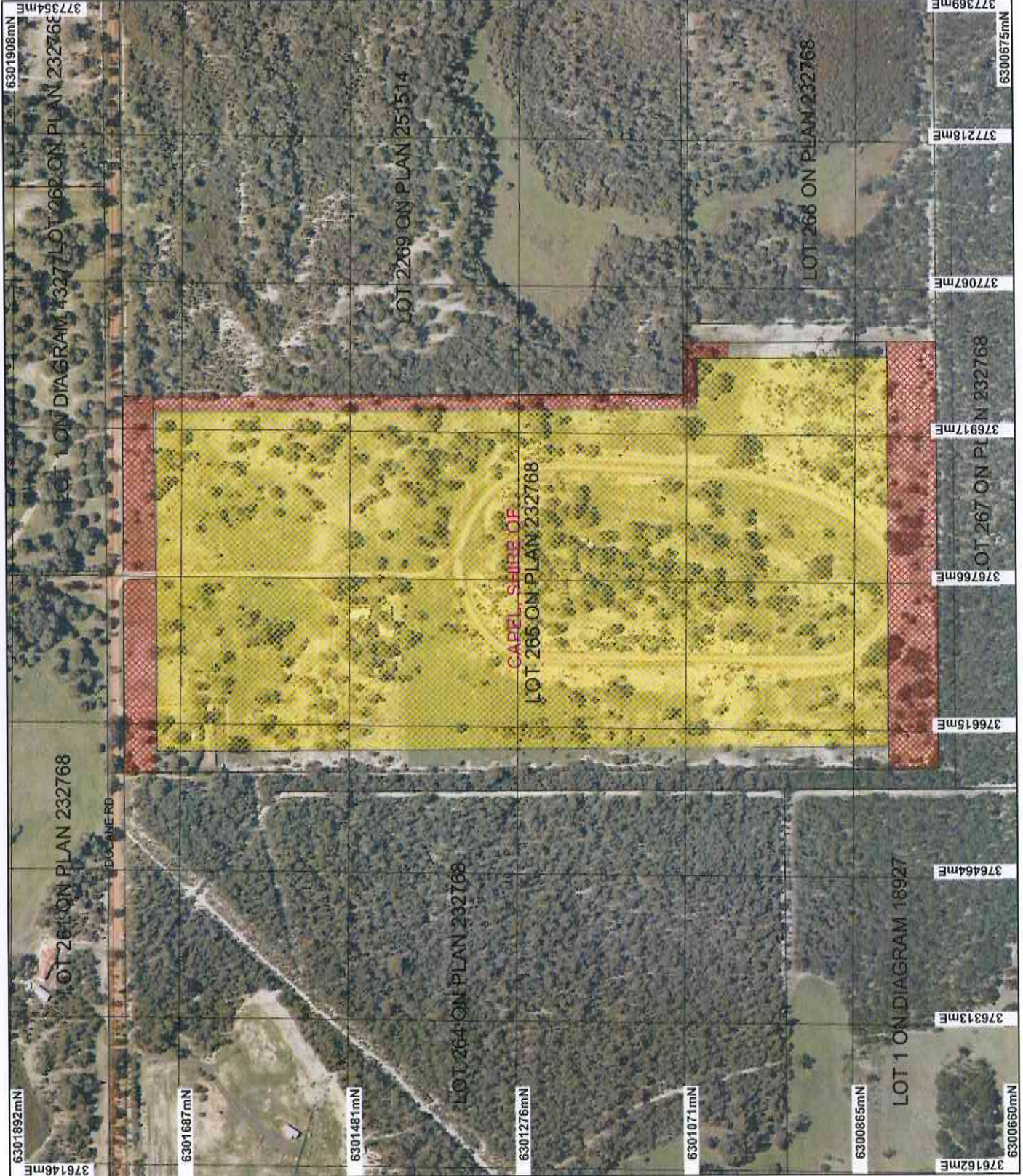
M Warnock  
SENIOR MANAGER  
CLEARING REGULATION

*Officer delegated under Section 20  
of the Environmental Protection Act 1986*

8 January 2015



# Plan 5319/1



- LEGEND**
- Local Government Authorities
  - Road Centrelines
  - Cadastral
  - Clearing Instruments
  - Areas Subject to Conditions
  - Areas Approved to Clear
  - Bunbury 50cm Orthomosaic - Landgate 2006



Scale 1:5000  
(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 of measurement in spaces.

*M. Warmack* 8/1/15

M. Warmack Date  
Office 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.







# Clearing Permit Decision Report

Government of Western Australia  
Department of Environment Regulation

## 1. Application details

### 1.1. Permit application details

Permit application No.: 5319/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Mario Michele Giacci and Allmoon Nominees Pty Ltd

### 1.3. Property details

Property: LOT 265 ON DEPOSITED PLAN 232768 (House No. 404 DUCANE NORTH BOYANUP 6237)  
Local Government Area: Shire of Capel

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 8 January 2015

## 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
Hedde Vegetation Bassendean Complex-Central and South ranges from woodland of <i>Eucalyptus marginata</i> (Jarrah), <i>Allocasuarina fraseriana</i> (Sheoak), and <i>Banksia</i> species to low woodland of <i>Melaleuca</i> species, and sedgelands on the moister sites. This area includes the transition of <i>Eucalyptus marginata</i> (Jarrah) to <i>Eucalyptus tottiana</i> (Pricklybark) in the vicinity of Perth (Hedde et al, 1980).	The clearing of 4.98 hectares of native vegetation within Lot 265 on Deposited Plan 232768, North Boyanup is for the purpose of sand extraction.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the vegetation was established through a site inspection by the former Department of Environment and Conservation (DEC, 2012).
Hedde Vegetation Southern River Complex consists of open woodland of <i>Corymbia calophylla</i> (Marri), <i>Eucalyptus marginata</i> (Jarrah), <i>Banksia</i> species with fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum) and <i>Melaleuca raphiophylla</i> (Swamp Paperbark) along creek beds (Hedde et al, 1980).		To	The vegetation under application consists predominantly of <i>Corymbia calophylla</i> , <i>Eucalyptus marginata</i> and <i>Agonis flexuosa</i> with a degraded understorey of <i>Banksia attenuata</i> , <i>Banksia grandis</i> , <i>Banksia illicifolia</i> , <i>Nuytsia floribunda</i> , <i>Kunzea glabrescens</i> , <i>Xanthorrhoea preissii</i> , <i>Xanthorrhoea brunonis</i> , <i>Macrozamia riedlei</i> and <i>Hakea lissocarpha</i> (DEC, 2012).
Mapped Beard vegetation association 1000 is described as medium forest consisting of jarrah-marri and low woodland consisting of <i>Banksia</i> and low forest consisting of <i>Melaleuca</i> Spp (Shepherd et al. 2001).		Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	

## 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 application proposes to clear up to 4.98 hectares of native vegetation within a larger footprint area of 29.51 hectares, on Lot 265 on Deposited Plan 232768, North Boyanup for the purpose of sand extraction. The vegetation is in a degraded to completely degraded (Keighery, 1994) condition, with evidence of previous extensive clearing for stock pasture and a horse track (DEC, 2012).  
  
The vegetation under application consists predominantly of scattered *Corymbia calophylla*, *Eucalyptus marginata* and *Agonis flexuosa* with a degraded understorey consisting of *Banksia attenuata*, *Banksia grandis*, *Banksia illicifolia*, *Nuytsia floribunda*, *Kunzea glabrescens*, *Xanthorrhoea preissii*, *Xanthorrhoea brunonis*, *Macrozamia riedlei* and *Hakea lissocarpha*. The degraded understorey is largely the result of extensive grazing by horses (DEC, 2012).

The local area (10 kilometre radius) surrounding the application retains approximately 30 per cent of its pre-European vegetation extent.

Several priority flora species have been mapped within a one kilometre radius of the application area. All of these species are growing in association with mapped wetlands. Given that the application area is not mapped within a wetland and is in a degraded to completely degraded (Keighery, 1994) condition, these species are unlikely to occur within the application area.

There are no priority ecological communities mapped within the local area of the proposed clearing (10 kilometre radius).

There are several *Agonis flexuosa* within the application area (DEC, 2012) that provide suitable habitat for Western Ringtail Possums (*Pseudocheirus occidentalis*). There are also scattered banksia species on site that 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*). These species are declared as specially protected under the Wildlife Conservation Act 1950 (WC Act). To mitigate long term impacts to fauna and enhance linkage values between remnants, the proponent will be required to revegetate a total of 4.98 hectares around the boundary of Lot 265.

The disturbance caused by the proposed clearing will increase the likelihood of weeds and dieback spreading into adjacent vegetated areas. Weed and dieback management practices will assist in mitigating this risk.

Given that vegetation in a better condition occurs adjacent to the proposed clearing, and the vegetation under application is in a degraded to completely degraded (Keighery, 1994) condition, the proposed clearing is not likely to comprise a high level of biological diversity.

#### Methodology

##### References:

- Keighery (1994)
- DEC (2012)

##### GIS Databases:

- SAC Biodatasets (accessed December 2014)
- NLWRA, Current Extent of Native Vegetation

### **(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 may be at variance to this Principle**

Several fauna species of conservation significance have been recorded within the local area (10 kilometre radius), including *Isoodon obesulus* subsp. *fusciventer* (Quenda), *Macropus irma* (Western Brush Wallaby), , *Bettongia penicillata* subsp. *Ogilbyi*, (*Woylie*), *Calyptorhynchus banksii* subsp. *naso* (Forest Red-tailed Black-cockatoo), *Calyptorhynchus baudinii* (Baudin's cockatoo), *Calyptorhynchus latirostris* (Carnaby's cockatoo) *Dasyurus geoffroi* (Chuditch), *Pseudocheirus occidentalis* (Western Ringtail Possum) and *Setonix brachyurus* (Quokka) (DEC, 2007 -).

Quokka and Quenda are small terrestrial species with a preference for dense understorey, required for protection from larger predators. The application area is in a degraded to completely degraded (Keighery, 1994) condition with a lack of dense understorey (DEC, 2012). Therefore the vegetation under application is not likely to provide significant habitat for these species.

Chuditch have a preference for eucalypt forest (especially *Eucalyptus marginata*), dry woodland and mallee shrublands and 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 1 metre long (DotE, 2014). Suitable den sites were not found on site, therefore the application area is not likely to provide significant habitat for this species.

There are a number of *Agonis flexuosa* (97 individuals) within the application area which may provide habitat for Western Ringtail Possums.

A fauna survey of the application area did not identify any possum dreys on site (Astron Environmental Services, 2012), however a site inspection undertaken in 2012 by the former Department of Environment and Conservation (DEC, 2012) identified a Western Ringtail Possum scat within close proximity to an *Agonis flexuosa*, indicating that the species may utilise the application area. Prior to the commencement of clearing there will be a requirement for Western Ringtail Possums identified on site to be removed and relocated to an area of equally suitable habitat in accordance with authorisation under the WC Act.

The vegetation under application consists of several Banksia species, which may provide foraging habitat for black cockatoo species as they have a significant portion of their diet made up of 'seeds of hakeas, banksias, grevilleas and eucalypts' (Burbidge, 2004). A site inspection undertaken by Astron Environmental Services (2012) identified suitable black cockatoo foraging habitat within the application area, noting the presence of chewed marri nuts on site. A total of nine Jarrah and Marri trees were identified (Astron Environmental Services, 2012) with hollows that may be suitable for black cockatoo species.

No evidence of past or current breeding activity from black cockatoos was observed for these trees (Astron Environmental Services, 2012).

Vegetation in better condition is located to the west and south of the proposed clearing area which provides greater quality habitat for black cockatoos and Western Ringtail Possums. Despite this, the vegetation under application provides suitable habitat for black cockatoos and Western Ringtail Possums.

The proposed clearing may be at variance to this Principle. Given the temporary nature of the clearing, the proponent will be required to revegetate 4.98 hectares of native vegetation, which will help to minimise long term impacts to fauna.

**Methodology**   References:  
-Astron Environmental Services (2012)  
-Burbidge (2004)  
-DEC (2007)  
-DEC (2012)  
-DotE (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**  
The closest mapped rare flora occurs approximately 2.9 kilometres east of the proposed clearing area. This species has a preference for white and grey sandy areas (Western Australian Herbarium, 1998-) and is often associated with Kunzea glabrescens thickets adjacent to winter-wet swamps (Hopper and Brown, 2007). The abovementioned occurrence is mapped within a conservation category dampland.

There are no wetlands mapped within the application area and given that the vegetation under application ranges from degraded to completely degraded (Keighery, 1994) in condition (DEC, 2007) and has been extensively grazed, it is not likely that the vegetation under application includes or is necessary for the continued existence of this species.

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

**Methodology**   References:  
-Western Australian Herbarium (1998)  
-Hopper and Brown (2007)  
-Keighery (1994)  
-DEC (2007)  
  
GIS Databases:  
-SAC Biodatasets (accessed November 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**  
One threatened ecological community (TEC) has been mapped approximately three kilometres from the application area. The vegetation under application is not representative of that mapped within the TEC and therefore the proposed clearing is not likely to be at variance to this Principle.

**Methodology**   GIS Databases:  
-SAC Biodatasets (accessed December 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 may be at variance to this Principle**  
The local area (10 kilometre radius) surrounding the application has approximately 30 per cent of its 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).

Beard Vegetation Association 1000, Bassendean Complex Central and South and Southern River Complex all retain slightly less than the 30 per cent threshold. The Shire and the IBRA Bioregion retain greater than 30 per cent of their pre-European vegetation.

Vegetation in better condition is located to the west and south of the proposed clearing area which provides greater quality habitat for black cockatoos and Western Ringtail Possums.



The vegetation under application provides habitat for black cockatoos, and Western Ringtail Possums and may therefore be a significant remnant.

The proposed clearing may be at variance to this Principle. Given the temporary nature of the clearing, the proponent will be required to revegetate 4.98 hectares of native vegetation, which will help to minimise long term impacts to fauna.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DPaW Managed Lands (%)
<b>IBRA Bioregion*</b>				
Swan Coastal Plain	1,501,209	587,889	39.16	34.79
<b>Shire*</b>				
Shire of Capel	55,945	19,123	34.18	44.37
<b>Beard Vegetation Association in Bioregion*</b>				
1000	94,175	25,175	26.73	16.76
<b>Hedde Vegetation Complex**</b>				
Bassendean Complex				
Central and South	87,318	24,611	28.18	3.45
Southern River Complex	57,171	12,059	21.09	1.65

\*Government of Western Australia (2013)

\*\*Hedde et al (1980)

**Methodology** References:  
 -Government of Western Australia (2013)  
 -Commonwealth of Australia (2001)  
 -Hedde et al (1980)

GIS Databases:  
 -NLWRA, Current Extent of Native 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**  
 A Multiple Use semeniuk sumpland occurs 100 metres east of the application area, a Resource Enhanced semeniuk sumpland lies 220 metres east of the application area and a Conservation Category semeniuk sumpland lies 280 metres east of the application area.

Given the vegetation identified on site, and distance to hydrological features, the vegetation under application is not likely to be growing in, or in association with, an environment associated with a watercourse or wetland.

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

**(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 soils within the application area have been mapped by Northcote et al (1960-68) as sandy dunes with intervening sandy and clayey swamp flats with chief soils of leached sands sometimes with a clay D horizon below five feet, on the dunes and sandy swamps.

The topography of the property gently slopes downwards towards the wetlands to the east, therefore there may be some minor water erosion if rainfall occurs immediately post clearing. However, given the highly permeable soil types present on site it is not likely that water erosion will result in appreciable land degradation

The application area contains sandy soils which are prone to wind erosion. The Extractive Industry Licence issued by the Shire of Capel (2014), requires the applicant to stabilise unsealed access roads, stabilise and rehabilitate batters and setbacks and preserve vegetation not in areas scheduled for immediate extraction. Given this, and the degraded to completely degraded (Keighery, 1994) condition of the vegetation under application, it is unlikely that the proposed clearing will lead to wind erosion causing appreciable land degradation.

The proposed clearing is not likely to be at variance to this Principle. Given the temporary nature of the clearing the proponent will be required to revegetate 4.98 hectares of native vegetation.

**Methodology** References:  
-Northcote et al (1960-1968)  
-TME (2012)  
-Keighery (1994)

GIS Databases:  
-Salinity, Statewide  
-Soils, Statewide  
-Topographic Countours, Statewide

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
The closest conservation area to the proposed clearing is Dardanup Conservation Park located 9.4 kilometres east of the application area. Given the distance of the application area to this park it is unlikely that the proposed clearing will impact on the environmental values of this conservation area.

The proposed clearing is not likely to be 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**  
A Multiple Use semeniuk sumpland occurs 100 metres east of the application area, a Resource Enhanced semeniuk sumpland lies 220 metres east of the application area and a Conservation Category semeniuk sumpland lies 280 metres east of the application area.

The topography of the property gently slopes downwards towards the wetlands to the east. Given this downward slope and the close proximity to mapped wetlands, the clearing may increase runoff into the adjacent wetlands post clearing. However, given the degraded to completely degraded (Keighery, 1994) condition of the vegetation on site, it is not likely that the proposed clearing will lead to significant impacts to wetlands. To mitigate any potential run-off into adjacent areas post clearing, the proponent will be required to adhere to a Stormwater Management Plan, as required under the Extractive Industry Licence issued by the Shire of Capel (2014).

Groundwater salinity ranges from 1000 to 3000 milligrams per litre (brackish to moderately saline) on site. Given this relatively low salinity level and vegetation condition, the proposed clearing is not likely to 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** References:  
-Keighery (1994)  
-DEC (2012)

GIS Databases:  
-Salinity, Statewide  
-Topographic Contours, Statewide  
-Rainfall, Mean Annual

**(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 proposed clearing of vegetation in a degraded to completely degraded (Keighery, 1994) condition is not likely to cause or exacerbate the incidence or intensity of flooding.

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

**Methodology** References:  
-Keighery (1994)

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

### Comments

A submission has been received opposing the proposed clearing due to the potential loss of a large number of habitat trees, stating that the clearing may affect the adjoining high quality vegetation, particularly in regards to the water table and difficulty in rehabilitating cleared areas post extraction (Submission, 2012). These concerns have been addressed under the relevant Principles.

The area under application is within the Bunbury Groundwater area proclaimed under the Rights in Water and Irrigation (RIWI) Act 1914. The DoW (2012) has advised any groundwater abstraction in this area is subject to licensing. The applicant has advised that no groundwater will be required for activities associated with the proposed clearing.

The proponent has advised that there will be no sand extraction below the water table and the extraction cut off will be two meters above maximum groundwater table (TME, 2012). Therefore the proposed clearing of vegetation in a degraded to completely degraded (Keighery, 1994) condition is unlikely to impact the water table.

The application area is zoned rural under the town planning scheme zone.

The applicant has obtained an Extractive Industry Licence from the Shire of Capel. The approval is subject to conditions (Shire of Capel, 2014).

### Methodology

#### References:

- DoW (2012)
- TME (2012)
- Submission (2012)
- Keighery (1994)
- Shire of Capel (2014)

#### GIS Databases:

- Town Planning Scheme Zones

## 4. References

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