



## CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

<b>Purpose Permit number:</b>	CPS 6227/1
<b>Permit Holder:</b>	Carlo Doyle's Haulage Pty Ltd
<b>Duration of Permit:</b>	18 June 2016 to 30 June 2026

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 141 on Deposited Plan 232768, North Boyanup

**3. Area of Clearing**

The Permit Holder shall not clear more than 2.45 hectares of native vegetation within the area cross hatched yellow on attached Plan 6227/1.

**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.

### PART II – MANAGEMENT CONDITIONS

**5. Period in which clearing is authorised**

The Permit Holder shall not clear any native vegetation after 10 March 2021.

**6. 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*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the clearing area to be cleared;
- ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

**7. Fauna management**

(a) Prior to undertaking clearing authorised under this Permit, the area shall be inspected by a *fauna specialist* who shall identify *habitat tree(s)* suitable to be utilised by the below fauna species:

- Carnaby's cockatoo (*Calyptorhynchus latirostris*);
- Baudin's cockatoo (*Calyptorhynchus baudinii*);
- forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*); and
- southern brush-tailed phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*)

(b) Prior to clearing, any *habitat tree(s)* identified by condition 7(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in condition 7(a).

(c) Where fauna are identified in relation to condition 7(b) of this Permit, the Permit Holder shall ensure that no clearing of the identified *habitat tree(s)* occurs, unless approved by the CEO.

## 8. 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 and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) Prior to 30 June 2021, *revegetate* and *rehabilitate* the area cross-hatched yellow on attached Plan 6227/1 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 pit floor and contour batters within the extraction site; and
  - (iii) laying vegetative material and topsoil retained under condition 8(a) on the cleared area(s).
  - (iv) 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
  - (v) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.
- (c) within 18 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 8(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 8(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, the Permit Holder must undertake additional planting or direct seeding of native vegetation in accordance with the requirements of condition 8(b)(iv) and (v) of this Permit.
- (d) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 8(c)(ii) of this permit, the Permit Holder shall repeat condition 8(c)(i) and 8(c)(ii) within 18 months of undertaking the additional *planting* or *direct seeding*.
- (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 8(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 8(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 8(c)(ii).

## 9. 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 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;
  - (ii) the date that the area was cleared; and
  - (iii) the size of the area cleared (in hectares).
- (b) In relation to fauna management pursuant to condition 7 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; and
  - (ii) the species name of fauna identified within the *habitat tree(s)*.
- (c) In relation to the *revegetation* and *rehabilitation* of areas under condition 8 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) the date that the *revegetation* and *rehabilitation* activities were undertaken
  - (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.

## 10. 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 9 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 of each year.
- (c) Prior to 30 March 2026, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit where these records have not already been provided under condition 10(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;

**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 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 suitable for native fauna;

**local provenance** means native vegetation seeds and propagating material from natural sources within 50 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;

**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; and

*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.



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James Widenbar  
A/SENIOR MANAGER  
CLEARING REGULATION






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

19 May 2016

# Plan 6227/1



## Legend

-  Areas approved to clear
-  Roads
-  Cadastre
- Virtual Mosaic (LGATE-V001)
- 
-  LGA



1:4,649

MGA 94  
Geocentric Datum of Australia 1994

 Date 19/5/2016  
James Widenbar

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



GOVERNMENT OF  
WESTERN AUSTRALIA



## 1. Application details

### 1.1. Permit application details

Permit application No.: 6227/1  
Permit type: Purpose Permit

### 1.2. Applicant details

Applicant's name: Carlo Doyle's Haulage Pty Ltd

### 1.3. Property details

Property: LOT 141 ON PLAN 232768, NORTH BOYANUP  
Local Government Authority: Shire of Capel  
DER Region: South West

### 1.4. Application

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

### 1.5. Decision on application

**Decision on Permit Application:** Granted  
**Decision Date:** 19 May 2016  
**Reasons for Decision:**

The application area has been reduced from 3.3 hectares to 2.45 hectares to exclude vegetation in a good (Keighery, 1994) condition and minimise environmental impacts. The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and has concluded that the proposed clearing is at variance to Principle (f), may be at variance to principles (b) and (e), and is not likely to be at variance to the remaining clearing principles.

The assessment has determined that the clearing will involve large dead trees containing hollows, which have the potential to provide habitat for forest red-tailed black-cockatoo, Baudin's cockatoo, Carnaby's cockatoo and southern brush-tailed phascogale. Conditioned fauna management measures that involve a pre-clearing inspection of the habitat trees for the abovementioned species, whereby no clearing of these trees is to occur if any individuals are found, will help to minimise impacts to these species.

The assessment has determined that the clearing may impact on vegetation that is growing in association with a mapped multiple use wetland (dampland) adjacent to the southern border of the application area. The dampland within this area comprises previously cleared areas used for pivot irrigation, and the proposed clearing of a relatively small, degraded to completely degraded area is not likely to impact on any remaining values of the dampland. Furthermore, the applicant will be required to revegetate the application area post extraction, which will help to minimise any long term impacts to this wetland.

The applicant has obtained an extractive industry licence from the Shire of Capel.

Relevant State policies and other relevant policies have been taken into consideration by the Decision Maker in the decision to grant a clearing permit.

## 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
Mapped Beard vegetation association 1000 is comprises medium jarrah-marri low woodland with banksia low forest and tea tree (Shepherd et al., 2001).	The clearing of 2.45 hectares of native vegetation within Lot 141 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). To Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The applicant has reduced the size of the original application area from 3.3 hectares to 2.45 hectares to minimise environmental impact.  The description and condition of the vegetation was determined via an Environmental Assessment undertaken by Accendo Australia (2014) and a site inspection undertaken by the
Mapped Heddle vegetation Bassendean Complex Central and South consists of woodland of Eucalyptus marginata, Allocasuarina fraseriana and Banksia species to low woodland of Melaleuca species, and sedgeland on the moister sites. This area includes the transition of Eucalyptus marginata to Eucalyptus todtiana in Perth (Hedde et al., 1980).			

Department of Environment Regulation (DER, 2014). The vegetation under application is comprised of three vegetation types (Accendo Australia, 2014):

Kunzea glabrescens dominated shrubland with occasional Banksia and Eucalyptus marginata (comprises 90 per cent of the application area).

Banksia woodland with scattered Agonis flexuosa and Eucalyptus marginata with an understorey of Kunzea glabrescens (comprises 5 per cent of the application area).

Scattered Banksia woodland and occasional Eucalyptus marginata with an understorey of Kunzea glabrescens (comprises 5 per cent of the application area).

### 3. Assessment of application against clearing principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

##### Comments

##### **Proposed clearing is not likely to be at variance to this Principle**

The clearing of 2.45 hectares of native vegetation within Lot 141 on Deposited Plan 232768, North Boyanup, is for the purpose of sand extraction. An environmental assessment undertaken by Accendo Australia (2014) identified that the vegetation under application ranges from degraded to completely degraded (Keighery, 1994) condition. The original application area (3.3 hectares) included vegetation in a good (Keighery, 1994) condition, however the applicant has reduced the size of the application area to exclude vegetation in a good (Keighery, 1994) condition and minimise environmental impacts.

The majority of the vegetation under application is comprised of Kunzea glabrescens dominated shrubland with occasional Banksia and Eucalyptus marginata (Accendo Australia, 2014). There is a small area (comprising five per cent of the application area) of Banksia woodland with scattered Agonis flexuosa and Eucalyptus marginata within the eastern portion of the application area. There is also a scattered linear area of Banksia and occasional Eucalyptus marginata with an understorey of Kunzea glabrescens within the north western portion of the application area (Accendo Australia, 2014). The application area shows significant signs of disturbance (DER, 2014) and is likely to have been subject to historical grazing pressures.

The Environmental Assessment undertaken by Accendo Australia (2014) did not identify any rare or priority flora species, and given the relatively small degraded to completely degraded (Keighery, 1994) application area (DER, 2014), it is unlikely that the proposed clearing will impact on any rare or priority flora species.

The closest priority ecological community (PEC) to the application area is the priority 1 PEC known as 'Whicher Scarp Jarrah Woodland on deep coloured sands' located approximately 8.5 kilometres south east of the application area. The vegetation under application is not consistent with this community description, and the proposed clearing is unlikely to impact on this PEC.

The local area (10 kilometre radius) surrounding the application area retains approximately 25 per cent native vegetation.

A relatively small portion (approximately 10 per cent – 0.25 hectares) of the application area includes vegetation that is suitable foraging habitat for forest red-tailed black-cockatoo (*Calyptorhynchus banksii* subsp. *naso*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and Carnaby's cockatoo (*Calyptorhynchus latirostris*) (collectively known as black cockatoos). These species are all listed as 'rare or likely to become extinct' under the Wildlife Conservation Act 1950. Given the degraded to completely degraded (Keighery, 1994) condition of the vegetation under application (DER, 2014), and that the area of suitable habitat comprises a relatively small area; the vegetation under application is not likely to comprise significant foraging habitat for these species. The application area contains several large dead trees with hollows that may contain suitable breeding habitat for the abovementioned black cockatoos, and suitable habitat for the southern brush-tailed phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*).

The vegetation under application is within close proximity to a mapped South West Regional Ecological Linkage corridor. These corridors are important for the dispersal of native fauna as well as consisting of either breeding or foraging habitat, or both, for local fauna (Molloy et al., 2009).

Under a condition of the extractive industry licence, issued by the Shire of Capel, the applicant is required to maintain a 40 metre vegetative buffer between a road reserve north and the extraction area. The application

area has been amended to provide a 40 metre buffer. This buffer assists in maintaining the ecological connectivity of vegetative remnants located east and west of the application area. The applicant will also be required to revegetate the application area post extraction, which will also help to minimise long term impacts to fauna and flora dispersal. Given this and that the amended application area is in a degraded to completely degraded (Keighery, 1994) condition and it is not expected that the proposed clearing will significantly impact on this linkage

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

#### Methodology

##### References:

- Accendo Australia (2014)
- DER (2014)
- Keighery (1994)
- Molloy et al. (2009)

##### GIS Databases:

- SAC Bio Datasets (accessed April 2016)
- 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

##### **Proposed clearing may be at variance to this Principle**

Several fauna species of conservation significance have been recorded within the local area (10 kilometre radius), including forest red-tailed black-cockatoo, Baudin's cockatoo, Carnaby's cockatoo, southern brush-tailed phascogale, chuditch (*Dasyurus geoffroii*), and western ringtail possum (*Pseudocheirus occidentalis*) (Department of Parks and Wildlife (Parks and wildlife), 2007-).

Forest red-tailed black cockatoo, Baudin's cockatoo and Carnaby's cockatoo (collectively known as black cockatoos) forage on the seeds, nuts and flowers of a large variety of plants including proteaceous species (banksia, hakea, grevillea), as well as allocasuarina and eucalyptus species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008).

The application area contains a relatively small portion (approximately 0.25 hectares) of banksia woodland, however given that it is in degraded to completely degraded (Keighery, 1994) condition (DER, 2014), and that the application area has been amended to exclude foraging habitat in a good (Keighery, 1994) condition, it is not likely that the application area contains significant foraging habitat for black cockatoos.

'Breeding habitat' for black cockatoos 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, a suitable DBH is 500 millimetres (Commonwealth of Australia, 2012).

A site inspection of the application area (DER, 2014) identified some large dead trees with hollows capable of providing suitable breeding habitat for black cockatoos. These hollows may also provide suitable habitat for the southern brush-tailed phascogale. Fauna management measures requiring the applicant to engage a fauna specialist to check hollows for the presence of black cockatoos and southern brush-tailed phascogales prior to the commencement of any clearing will assist in minimising this potential impact. Where any of these fauna species are identified within a habitat tree, the applicant will not be permitted to clear the habitat tree without CEO approval.

A relatively small portion of the application area comprises *Agonis flexuosa*, which may provide suitable habitat for western ringtail possums, as this species has a preference for near coastal *Agonis flexuosa* forest and *Eucalyptus gomphocephala* dominated forest with an *Agonis flexuosa* understorey (Department of the Environment, 2013). The application area has been amended to exclude the majority of the mapped vegetation type containing *Agonis flexuosa* and therefore it is unlikely that the few scattered *Agonis flexuosa* remaining within the amended area (DER, 2014) comprise significant habitat for western ringtail possums.

The vegetation under application is within close proximity to a mapped South West Regional Ecological Linkage corridor. These corridors are important for the dispersal of native fauna as well as consisting of either breeding or foraging habitat, or both, for local fauna (Molloy et al., 2009).

Under a condition of the extractive industry licence, issued by the Shire of Capel, the applicant is required to maintain a 40 metre vegetative buffer between a road reserve north and the extraction area. The application area has been amended to provide a 40 metre buffer. This buffer assists in maintaining the ecological connectivity of vegetative remnants located east and west of the application area. The applicant will also be required to revegetate the application area post extraction, which will also help to minimise long term impacts to fauna and flora dispersal. Given this and that the amended application area is in a degraded to completely degraded (Keighery, 1994) condition and it is not expected that the proposed clearing will significantly impact on this linkage

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

#### Methodology

##### References:



- Commonwealth of Australia (2012)
- DER (2014)
- Department of the Environment (2013)
- Keighery (1994)
- Molloy et al. (2009)
- Parks and Wildlife (2007- )
- Valentine and Stock (2008)

**(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**

The closest rare flora record to the application area is located approximately 4.4 kilometres north east of the application area on the same mapped vegetation and soil type.

This species is a tuberous perennial herb that flowers from September to October (Western Australian Herbarium, 1998- ). This species was not identified during an Environmental Assessment undertaken by Accendo Australia (2014).

The application area has undergone significant historical disturbance, particularly the understorey vegetation which looks to have been subject to stock grazing (DER, 2014). Given this, the relatively small area proposed for clearing, and distance to the closest record of rare flora, it is not likely that the application area includes, or is necessary for the continued existence of rare flora.

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

**Methodology References:**

- Accendo Australia (2014)
- Western Australian Herbarium (1998- )

**GIS Databases:**

- SAC Bio Datasets (Accessed April 2016)

**(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**

There are no threatened ecological communities (TEC) mapped within the application area. The closest threatened ecological community (TEC) to the application area is mapped 3.9 kilometres north east and is known as 'Eucalyptus calophylla woodlands on heavy soils on the southern Swan Coastal Plain'. This TEC is listed as Vulnerable, as endorsed by the Minister for Environment.

The application area is not consistent with the description of the abovementioned TEC (DER, 2014), and given the distance to this TEC, it is not likely to be impacted by the proposed clearing.

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

**Methodology References:**

- DER (2014)

**GIS Databases:**

- SAC Bio Datasets (Accessed April 2016)

**(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 local area (10 kilometre radius) surrounding the application area retains approximately 25 per cent native vegetation. The Swan Coastal Plain, Shire of Capel, mapped Beard vegetation association (1000) and Heddle vegetation Bassendean Complex Central and South retain approximately 39, 33, 25 and 26 per cent of their pre-European vegetation respectively (Government of Western Australia, 2014 and Parks and Wildlife, 2015).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The vegetation remaining in the local area, Beard vegetation association 1000 and Heddle vegetation Bassendean Complex Central and South retain just below the 30 per cent vegetation threshold. The application area is largely comprised of degraded (Keighery, 1994) Kunzea glabrescens dominated shrubland, and is not truly representative of the mapped vegetation types. However, the local area has been extensively cleared. Given that the application area is within close proximity to a mapped South West Regional Ecological Linkage corridor and contains large dead trees with hollows capable of providing suitable breeding habitat for black

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

Fauna management measures will require the applicant to engage a fauna specialist to check hollows for the presence of black cockatoos and southern brush-tailed phascogales prior to the commencement of clearing. Where fauna are identified within a habitat tree, the applicant will not be permitted to clear the habitat tree without CEO approval.

The applicant will also be required to revegetate the application area post extraction which will help to ensure that long term impacts as a result of clearing are minimised.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
<b>IBRA Bioregion*</b>				
Swan Coastal Plain	1,501,222	580,697	39	37
<b>Shire*</b>				
Shire of Capel	55,945	18,653	33	45
<b>Beard Vegetation Association*</b>				
1000	94,175	23,873	25	19
<b>Hedde Vegetation**</b>				
Bassendean Complex Central and South	87,476	22,869	26	5

**Methodology** References:  
 -Commonwealth of Australia (2001)  
 -DER (2014)  
 -\*Government of Western Australia (2014)  
 -Keighery (1994)  
 -\*\* Parks and Wildlife (2015)

**(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 at variance to this Principle**  
 The southern border of the application area is adjacent to a multiple use dampland, which is also mapped as an area subject to inundation. The closest major watercourse to the application area is Five Mile Brook, located approximately 2.6 kilometres north west.

The application area contains vegetation commonly associated with low lying areas, specifically *Kunzea glabrescens*. This species is often found growing within sandy soils on the edges of swamps, lakes, rivers and moist depressions (Western Australian Herbarium, 1998- ). *Kunzea glabrescens* is prolific on site and there is a reasonable probability that this species is growing in association with the abovementioned dampland.

Given the above, the proposed clearing is at variance to this Principle. With reference to Lot 141 (subject lot) the abovementioned dampland comprises of cleared areas used for pivot irrigation, and the proposed clearing of a relatively small, degraded to completely degraded (Keighery, 1994) area is not likely to impact on any remaining values of the dampland. Furthermore, the applicant will be required to revegetate the application area post extraction, which will help to minimise any long term impacts to this wetland.

**Methodology** References:  
 -Western Australian Herbarium (1998- )  
 -Keighery (1994)  
 GIS Databases:  
 -Hydrography, linear  
 -Hydrography, hierachy

**(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 soils within the application area have been mapped by Northcote et al. (1960-68) as subdued dune-swale terrain with chief soils comprised of leached sands and small areas of other sand soils.

The application area is adjacent to a mapped multiple use dampland, however given the high permeability of sandy soils, and relatively small size of the application area, water erosion resulting from the proposed clearing is unlikely. Sandy soils are highly susceptible to wind erosion, however given the relatively small size and disturbed condition of the application area, it is not likely that any wind erosion post clearing will result in appreciable land

degradation.

An extractive industry licence has been issued by the Shire of Capel for the proposed extraction, whereby there is a requirement for the applicant to take precautions to prevent windblown material. This will further help to ensure that wind erosion is minimised.

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

**Methodology** References:  
-Northcote et al. (1960-68)

GIS Databases:  
-SAC Bio Datasets (Accessed April 2016)

**(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**

The closest conservation area to the proposed clearing is Tuart Forest National Park located approximately nine kilometres south west of the application area.

The vegetation under application is within close proximity to a mapped South West Regional Ecological Linkage corridor. These corridors are important for the dispersal of native fauna, particularly between conservation reserves, as well as consisting of either breeding or foraging habitat, or both, for local fauna (Molloy et al., 2009). The amended application area is in a degraded to completely degraded (Keighery, 1994) condition and it is not expected that the proposed clearing will significantly impact on linkage values, particularly given that the applicant has amended the application area to maintain a 40 metre buffer on the northern border of the application area.

Given the limited impacts to local linkages, the distance and lack of connectivity between the application area and this reserve, it is unlikely that the proposed clearing will impact on the environmental values of this conservation area.

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

**Methodology** GIS Databases:  
-Parks and Wildlife, Tenure  
-SWREL-AL

**(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**

The southern border of the application area is adjacent to a multiple use dampland, which is also mapped as an area subject to inundation. The closest major watercourse to the application area is Five Mile Brook, located 2.6 kilometres north west.

Given the distance to the closest mapped major watercourse, the proposed clearing is not likely to impact on the quality of surface water.

Given the relatively small degraded (Keighery, 1994) application area, the proposed clearing is not likely to result in a change in groundwater levels.

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

**Methodology** GIS Databases:  
-Hydrography, linear  
-Hydrography, hierachy  
-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 Proposed clearing is not likely to be at variance to this Principle**

Given the relatively small size of the application area and presence of highly permeable sandy soils (DER, 2014), the proposed clearing is unlikely to cause or exacerbate the incidence or intensity of flooding.

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

**Methodology** References:  
DER (2014)

GIS Databases:

- Hydrography, linear
- Hydrography, hierachy

## Planning instruments and other relevant matters.

**Comments** DER wrote to the applicant on 3 November 2014 advising a preliminary assessment had identified several environmental impacts and invited the applicant to address the issues. On 13 November 2014 the applicant requested to amend the application area to minimise environmental impacts and exclude vegetation in a good (Keighery, 1994) condition.

The proposed clearing of 2.45 hectares of native vegetation within Lot 141 on Deposited Plan 232768, North Boyanup, is for the purpose of sand extraction. The applicant has advised that the proposed clearing is to be undertaken over two years, with approximately two hectares planned for removal in the first year and the remaining vegetation to be removed during the subsequent year (Accendo Australia, 2014).

The Capel Land Conservation District Committee (Capel LCDC, 2014) was opposed to the initial 3.3 hectares of proposed clearing on the grounds that the vegetation provides suitable foraging habitat for black cockatoos and western ringtail possums. The Capel LCDC advise that many previous sand extraction areas have not been successfully rehabilitated (Capel LCDC, 2014). As mentioned above, the applicant has since reduced the application area to exclude vegetation in a good (Keighery, 1994) condition and minimise impacts to fauna. The applicant will also be required to engage a fauna specialist to identify and check habitat trees for the presence of black cockatoos and southern brush-tailed phascogale, whereby habitat trees identified as containing these species shall not be cleared without CEO approval. The applicant will also be required to revegetate the application area post extraction to the CEO's satisfaction.

The application area is zoned 'rural' under the Shire of Capel's Town Planning Scheme Zone. The applicant has been issued with an extractive industry licence from the Shire of Capel, subject to conditions.

**Methodology** References:  
 -Capel LCDC (2014)  
 -Keighery (1994)

## 4. References

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