



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 5394/1
Permit Holder:	Bunbury Harvey Regional Council
Duration of Permit:	16 November 2013 – 16 November 2023

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 daily cover for a rubbish disposal site and rehabilitation.

2. Land on which clearing is to be done

Lot 45 on Plan 17161, Wellesley.

3. Area of Clearing

The Permit Holder must not clear more than 6 hectares of native vegetation within the area shaded yellow on attached Plan 5394/1.

4. Type of clearing authorised

The Permit Holder shall not clear any native vegetation after 16 November 2018.

5. 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

6. Native vegetation conservation (conservation covenant)

- (a) In respect to the area shaded red on attached Plan 5394/1, the Permit Holder shall enter into a conservation covenant, agreement to reserve or some other form of binding undertaking to maintain native vegetation.
- (b) The conservation covenant, agreement to reserve or some other form of binding undertaking to maintain native vegetation shall include, but not be limited to, the following conditions:
 - (i) native vegetation in the area subject to the conservation covenant, agreement to reserve or some other form of binding undertaking to maintain native vegetation must not be cleared, other than for clearing required under the *Bush Fires Act 1954*;
 - (ii) the land subject to the conservation covenant, agreement to reserve or some other form of binding undertaking to maintain native vegetation shall not be used for the purpose of cultivation of crops or pasture; and
 - (iii) the conservation covenant, agreement to reserve or some other form of binding undertaking to maintain native vegetation is to apply in perpetuity and be registered on the Certificate of Title of the property.

- (c) The Permit Holder is to execute and return the conservation covenant, agreement to reserve or some other form of binding undertaking outlined in condition 6(a) of this permit before 17 April 2014.

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;
- (d) where *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is to be removed from the area to be cleared, ensure it is laid on areas of *comparable soil disease status*; and
- (e) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

8. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the topsoil removed by clearing authorised under this Permit and stockpile the topsoil in an area that has already been cleared.
- (b) within 3 months following completion of the extraction of cover material, *revegetate* and *rehabilitate* the areas 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) laying the topsoil retained under condition 8(a) on the cleared area(s).
- (c) within 24 months of laying the 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, *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 8(c)(ii) of this permit, the Permit Holder shall repeat condition 8(c)(i) and 8(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 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).

PART III - RECORD KEEPING AND REPORTING

9. Records to 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;
- (iv) the size of the area cleared (in hectares); and
- (b) In relation to the revegetation and rehabilitation of areas pursuant to 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) a description of the revegetation and rehabilitation activities undertaken; and
 - (iii) the size of the area revegetated and rehabilitated (in hectares).

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, 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 16 August 2023, 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:

comparable soil disease status means soils types that are either infested, not infested, uninterpretable or not interpreted;

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.

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 within 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;

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 the former Department of Environment and Conservation Regional Weed Assessments, regardless of ranking; or
- (c) not indigenous to the area concerned.

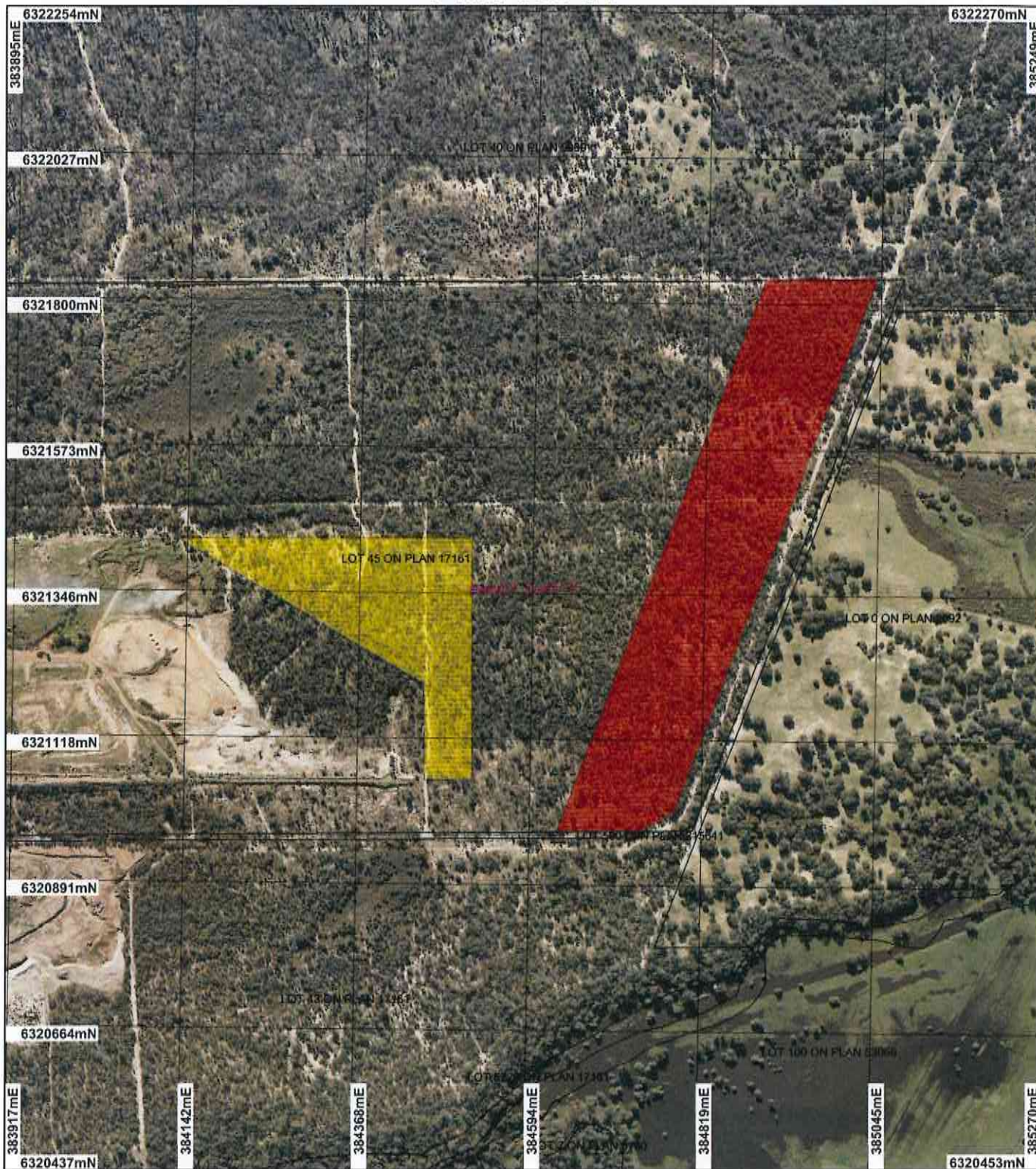


M Warnock
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

17 October 2013

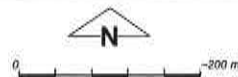
Plan 5394/1



LEGEND

- Cadastre
- Local Government Authorities
- Road Centrelines
- Clearing Instruments (cont)

- Areas Subject to Conditions
- Areas Approved to Clear
- Bunbury 50cm Orthomosaic - Landgate 2008_1



Scale 1:8000
 (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 Warnock Date 17/10/13
 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.



1. Application details

1.1. Permit application details

Permit application No.: 5394/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Bunbury Harvey Regional Council

1.3. Property details

Property: LOT 45 ON PLAN 17161 (House No. 51 STANLEY WELLESLEY 6233)
Local Government Area: Shire of Harvey
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 17 October 2013

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: 1000 - Mosaic: Medium forest; jarrah-marri/Low woodland; banksia/Low forest; teatree (<i>Melaleuca</i> spp.) (Shepherd et al. 2001).	The application is to clear up to 6 hectares of native vegetation for the purpose of daily cover for rubbish and rehabilitation within Lot 45 on Plan 17161, Wellesley, in the Shire of Harvey.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994).	Vegetation description and condition were determined through aerial imagery and site inspection (DEC 2013a).
Hedde Vegetation Complex: Bassendean Complex (Central and South) - Vegetation ranges from woodland of <i>Eucalyptus marginata</i> (Jarrah) - <i>Allocasuarina fraseriana</i> (Sheoak) - Banksia 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).		To	The vegetation under application consists of a <i>Eucalyptus marginata</i> and <i>Corymbia calophylla</i> overstorey with <i>Banksia attenuata</i> , <i>B. ilicifolia</i> and in some areas <i>Xylomelum occidentale</i> and <i>Agonis flexuosa</i> (DEC 2013a).
		Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The dominant understorey species is <i>Kunzea glabrescens</i> , with groundcover species including <i>Xanthorrhoea brunonis</i> , <i>Leucopogon nutans</i> , <i>Macrozamia riedlei</i> , <i>Dasyopogon bromeliifolius</i> , <i>Hibbertia hypericoides</i> , <i>Stirlingia latifolia</i> and <i>Calytrix flavescens</i> (DEC 2013a).

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 may be at variance to this Principle

The application is to clear up to six hectares of native vegetation within Lot 45 on Plan 17161, Wellesley, for the purpose of daily cover for rubbish and rehabilitation.

The vegetation under application is in good to degraded (Keighery 1994) condition. The overstorey consists of *Eucalyptus marginata* and *Corymbia calophylla* with *Banksia attenuata*, *B. ilicifolia* and in some areas *Xylomelum occidentale* and *Agonis flexuosa*. The dominant understorey species is *Kunzea glabrescens*, with groundcover species including *Xanthorrhoea brunonis*, *Leucopogon nutans*, *Macrozamia riedlei*, *Dasyopogon bromeliifolius*, *Hibbertia hypericoides*, *Stirlingia latifolia* and *Calytrix flavescens* (DEC 2013a).

The vegetation under application appears to be infested in some areas with *Phytophthora cinnamomi*. This was concluded through the numerous banksia and eucalypt deaths sighted during a site inspection (DEC 2013a).

The application area occurs in an area of vegetation identified under the Greater Bunbury Regional Scheme as the McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup ecological link (North- South) and the Brunswick

River (East - West) Ecological Linkage (EPA 2003). These same linkages are identified in the South West Regional Ecological Linkages (SWREL) (Molloy et al. 2009). Under the SWREL Project the proposed clearing has a proximity value of 1a to both linkages (Molloy et al. 2009).

These linkages provide an important corridor for the dispersal of native fauna as well as consisting of significant breeding and foraging habitat for local fauna. The proposed clearing will further degrade the quality of the linkage.

The mapped vegetation types of the application area retain less than the recommended threshold level (30 per cent), below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

There are numerous records of priority flora within the local area (10 kilometre radius). A priority four flora species may occur within the application area. Given the surrounded vegetation is also suitable for this species, and that several populations occur within the Kemerton area, the proposed clearing is not likely to have a significant impact on this species (DEC 2013b).

There are several large hollow bearing and potentially hollow bearing Eucalyptus trees within the application area. These habitat trees, as well as the presence of Banksia species and Corymbia calophylla, provide potential nesting, roosting and foraging habitat for Carnaby's Cockatoos, Forest red-tailed black cockatoos and Baudin's Cockatoos (DEC 2013a).

The application area is in close proximity to two ecological linkages, may contain significant habitat for fauna and is located in an area that has been extensively cleared, therefore, the proposed clearing may be at variance to this principle.

To address the residual environmental impacts identified in this assessment the applicant will place 12 hectares of vegetation under a conservation covenant to offset the loss of the 6 hectares of vegetation which is proposed to be cleared under this application. The 12 hectares of vegetation is located within the same property, approximately 130 metres from the vegetation to be cleared. The applicant has advised the 12 hectares of vegetation is the same type and quality as the vegetation proposed to be cleared and it is therefore likely to hold similar environmental values.

Methodology

References:

Commonwealth of Australia 2001

DEC 2013a

DEC 2013b

Keighery 1994

EPA 2003

Molloy et al. 2009

GIS Databases:

- Heddle Vegetation Complexes

- Pre European Vegetation

- SAC Biodatasets

- Soils, Statewide

(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 at variance to this Principle

There are numerous conservation significant fauna mapped within the local area (10 kilometre radius). These include the Carnaby's Cockatoo (*Calyptorhynchus latirostris*; rare or likely to become extinct, Wildlife Conservation Act 1950; endangered, Environment Protection and Biodiversity Conservation Act 1999), Forest red-tailed black-Cockatoo (*Calyptorhynchus banksii* subsp. *Naso*; rare or likely to become extinct, Wildlife Conservation Act 1950; vulnerable, Environment Protection and Biodiversity Conservation Act 1999) and Baudin's Cockatoo (*Calyptorhynchus baudinii*; rare or likely to become extinct, Wildlife Conservation Act 1950; vulnerable, Environment Protection and Biodiversity Conservation Act 1999) (DEC, 2007-).

The three black cockatoo species nest in the hollows of large eucalyptus trees that have minimum diameter, measured at 1.5 metres from the base of the tree, of 500 millimetres (Commonwealth of Australia 2012). There are several large hollow bearing and potentially hollow bearing Eucalyptus trees within the application area, which have the potential to provide nesting habitat for Carnaby's Cockatoos, Baudin's Cockatoos and Forest Red-tailed Black Cockatoos (DEC 2013a).

The vegetation under application includes Banksia species and Corymbia calophylla, which are likely to provide foraging habitat for black cockatoos. These birds forage on the seeds, nuts and flowers of a large variety of plants including proteaceous and eucalyptus species as well as Corymbia calophylla (Commonwealth of Australia 2012).

The habitat trees within the application area, as well as the presence of several Banksia species and Corymbia

calophylla, provide potential nesting, roosting and foraging habitat for the three species of black cockatoos (DEC 2013a).

The vegetation under application may provide habitat for the Southern Brush-tailed Phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*) as this species has a preference for dry sclerophyll forests and open woodlands containing hollow bearing trees with sparse groundcover (DEC 2006a).

There is no vegetation under application suitable for the Western Ringtail Possum (*Pseudocheirus occidentalis*). Given the lack of riparian vegetation under application, it is unlikely that the proposed clearing comprises significant Chuditch (*Dasyurus geoffroii*) habitat (DEC 2006b).

The application area occurs in an area of vegetation identified under the Greater Bunbury Regional Scheme as the McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup ecological link (North- South) and the Brunswick River (East - West) Ecological Linkage (EPA 2003). These same linkages are identified in the South West Regional Ecological Linkages (SWREL) (Molloy et al. 2009). Under the SWREL Project the proposed clearing has a proximity value of 1a to both linkages (Molloy et al. 2009).

These linkages provide an important corridor for the dispersal of native fauna as well as consisting of significant breeding and foraging habitat for local fauna. The proposed clearing will further degrade the quality of the linkage.

Given the above, the proposed clearing is at variance to this principle.

To address the residual environmental impacts identified in this assessment the applicant will place 12 hectares of vegetation under a conservation covenant to offset the loss of the 6 hectares of vegetation which is proposed to be cleared under this application. The 12 hectares of vegetation is located within the same property, approximately 130 metres from the vegetation to be cleared. The applicant has advised the 12 hectares of vegetation is the same type and quality as the vegetation proposed to be cleared and it is therefore likely to hold similar environmental values.

Methodology References:
Commonwealth of Australia 2012
DEC 2006a
DEC 2006b
DEC 2007-
DEC 2013a
EPA 2003
Molloy et al. 2009

(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**
There are several records of rare flora species within the local area (10 kilometre radius). The closest record occurring on the same soil and vegetation type is located approximately 1.7 kilometres from the application area.

This species occurs on deep sandy soils in banksia woodlands, in low lying areas alongside winter wet swamps (Brown et al. 1998). Given that the application area is not low-lying and is not adjacent to a watercourse, it is unlikely that this species occurs within the vegetation under application.

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

Methodology References:
Brown et al. 1998
GIS Databases:
- Pre-European Vegetation
- SAC Biodatasets
- Soils, Statewide

(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 several records of threatened ecological communities (TEC) within the local area (10 kilometre radius). The closest is the vulnerable Eucalyptus calophylla - Eucalyptus marginata woodlands on sandy clay soils of the southern Swan Coastal Plain. This community is located approximately 3.4 kilometres from the application area.

Given the condition of the vegetation under application and the differing soil types of the application area and the TEC, the proposed clearing is not likely to be representative of this community.

Methodology GIS Databases:
 - SAC Biodatasets
 - Soils, Statewide

(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

Aerial photography indicates the local area (10 kilometre radius) is approximately 35 percent vegetated.

The IBRA Bioregion (Swan Coastal Plain) and the local government agency (Shire of Harvey) retain approximately 39 percent and 52 percent of their respective pre-European extents (Government of Western Australia 2011).

The application area is mapped as Beard Vegetation Association 1000, which retains approximately 28 426 hectares (28 percent) of its pre-European extent within the Swan Coastal Plain IBRA Bioregion.

The area is mapped as Heddle Vegetation Complex Bassendean Complex (Central and South), which retains approximately 23 624 hectares (27 percent) of its pre-European extent within the Swan Coastal Plain IBRA Bioregion. Approximately two percent of Bassendean Complex (Central and South) is held in secure land tenure (Government of Western Australia 2013).

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

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

To address the residual environmental impacts identified in this assessment the applicant will place 12 hectares of vegetation under a conservation covenant to offset the loss of the 6 hectares of vegetation which is proposed to be cleared under this application. The 12 hectares of vegetation is located within the same property, approximately 130 metres from the vegetation to be cleared. The applicant has advised the 12 hectares of vegetation is the same type and quality as the vegetation proposed to be cleared and it is therefore likely to hold similar environmental values.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1 501 209	587 889	39	35
Shire*				
Shire of Harvey	170 788	89 075	52	75
Beard Vegetation Association in Bioregion*				
1000	99 801	28 426	28	16
Heddle Vegetation Complex**				
Bassendean Complex				
Central and South	87 477	23 624	27	2

* Government of Western Australia 2013
 ** Heddle et al. 1980

Methodology References:
 Commonwealth of Australia 2001
 Government of Western Australia 2013
 Heddle et al. 1980
 GIS Databases:
 - Bunbury 50cm Orthomosaic - Landgate 2008
 - Heddle Vegetation Complexes
 - NLWRA, Current extent of Native Vegetation
 - Pre-European Vegetation
 - SAC Biodatasets

(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 at variance to this Principle

There are numerous watercourses within the local area (10 kilometre radius). The Wellesley River is located approximately 600 metres south of the application area.

The closest wetland to the application area is a conservation category wetland located approximately 100 metres south of the application area.

A site inspection (DEC 2013a) did not identify any vegetation growing in, or in association with, a watercourse or wetland.

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

Methodology

References:

DEC 2013a

GIS Databases:

- ANCA wetlands

- Geomorphic wetlands

- Hydrography, Linear

- RAMSAR wetlands

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments Proposal is not likely to be at variance to this Principle

The majority of the soil within the application area is mapped as Cb39, which Northcote et al. (1960 - 1968) describes as subdued dune-swale terrain: chief soils are leached sands on the low dunes. Associated are small areas of other sand soils.

A small area of the application area has soil mapped as Wd6, which Northcote et al. (1960 - 1968) describes as plain: chief soils are sandy acidic yellow mottled soils, some of which contain ironstone gravel. Associated are acid yellow earths.

The main land degradation risk associated with this sandy soil type is wind erosion. Given that the area under application will be buffered on three sides by vegetation, significant wind erosion is unlikely.

The proposed clearing is not likely to cause appreciable land degradation, therefore the application is not likely to be at variance to this principle.

Methodology

References:

Northcote et al. 1960-1968

GIS Datasets:

- Soils 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 may be at variance to this Principle

The closest area managed for conservation (CALM Executive Body Freehold Land) is located approximately 400 metres north of the application area.

The application area occurs in an area of vegetation identified under the Greater Bunbury Regional Scheme as the McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup ecological link (North- south) and the Brunswick River (East - West) Ecological Linkage (EPA 2003). These same linkages are identified in the South West Regional Ecological Linkages (SWREL) (Molloy et al. 2009).

These linkages provide an important corridor for the dispersal of native fauna. The proposed clearing will further degrade the quality of the linkages and may further restrict the movement of fauna between conservation reserves and other patches of remnant vegetation.

The disturbance caused by the proposed clearing may increase the risk of weeds and dieback spreading into the adjacent vegetation.

Therefore, the proposed clearing may be at variance to this principle.

To address the residual environmental impacts identified in this assessment the applicant will place 12 hectares of vegetation under a conservation covenant to offset the loss of the 6 hectares of vegetation which is proposed

to be cleared under this application. The 12 hectares of vegetation is located within the same property, approximately 130 metres from the vegetation to be cleared. The applicant has advised the 12 hectares of vegetation is the same type and quality as the vegetation proposed to be cleared and it is therefore likely to hold similar environmental values.

Methodology References:
EPA 2003
Molloy et al. 2009
GIS Databases:
- DEC Tenure
- Bunbury 50cm Orthomosaic - Landgate 2008

(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 at variance to this Principle

There are no watercourses or wetlands within the application area and therefore the proposed clearing is unlikely to cause deterioration in the quality of surface water.

The groundwater salinity within the application area is 500-1000 milligrams per litre of Total Dissolved Solids. This level of groundwater salinity is considered to be marginal.

The application area does not occur within a Country Area Water Supply Act 1914 area or a Public Drinking Water Source Area.

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

Methodology GIS Databases:
- CAWSA Areas
- Geomorphic Wetlands, Swan Coastal Plain
- Groundwater Salinity, Statewide
- Hydrography, Linear
- PDWSA

(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

The soil within the majority of the application area is mapped as Cb39, which Northcote et al. (1960 - 1968) describes as subdued dune-swale terrain: chief soils are leached sands on the low dunes.

Given the porous nature of the sandy soils of the application area, the proposed clearing is unlikely to cause or exacerbate flooding. Therefore it is not at variance to this principle.

Methodology References:
Northcote et al. 1960 - 1968
GIS Databases:
- Bunbury 50cm Orthomosaic - Landgate 2008
- Soils, Statewide

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

Comments

To address the residual environmental impacts identified in this assessment the applicant will place 12 hectares of vegetation under a conservation covenant to offset the loss of the 6 hectares of vegetation which is proposed to be cleared under this application. The 12 hectares of vegetation is located within the same property, approximately 130 metres from the vegetation to be cleared. The applicant has advised the 12 hectares of vegetation is the same type and quality as the vegetation proposed to be cleared and it is therefore likely to hold similar environmental values.

The application area is located within the Brunswick River Surface Water Area and the Bunbury Groundwater Area covered by the Rights in Water and Irrigation Act 1914.

The applicant proposes to mulch the cleared vegetation for use on the property under application (DEC 2013b). Given the likely infestation of *Phytophthora cinnamomi* within the vegetation under application, the use of mulch within non infested areas would cause the potential spread of this disease. Dieback management practices restricting the placement of mulch will assist in mitigating this risk.

The area under application is zoned as 'Public Purposes (Special Uses)' under the Greater Bunbury Regional Scheme.

No public submissions have been received in responses to this application.

Methodology **References:**
Bunbury Harvey Regional Council 2013
DEC 2013b
GIS Databases:
- Greater Bunbury Regional Scheme
- RIWI Act areas

4. References

- Brown A., Thomson-Dans C. and Marchant N. (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- Bunbury Harvey Regional Council (2013) Response to additional information required letter for Clearing Permit Application CPS 5394/1, Lot 45 on Plan 17161, Wellesley. Received 8 October 2013. DER REF: A681617.
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5. Glossary

Term	Meaning
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community