



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3984/1

File Number: 2010/007562

Duration of Permit: From 23 November 2012 to 23 November 2019

PERMIT HOLDER

Cable Sands (WA) Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 100 on Plan Deposited 65306 (100 Wonnerup South Road, Yalyalup 6280)

AUTHORISED ACTIVITY

The Permit Holder must not clear more than 15.5 hectares of native vegetation within the area shaded yellow on attached Plan 3984/1.

CONDITIONS

1. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 23 November 2014.

2. Avoid, minimise etc clearing

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

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

3. 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) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

4. Western Ringtail Possum Management

- (a) Prior to undertaking any clearing authorised under this Permit, the areas shall be inspected by a *fauna specialist* who shall identify habitat tree(s) suitable to be utilised as habitat by Western Ringtail Possums (*Pseudocheirus occidentalis*).
- (b) Prior to clearing, any habitat tree(s) identified by condition 4(a) shall be inspected by a *fauna specialist* for the presence of Western Ringtail Possums (*Pseudocheirus occidentalis*).
- (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 Western Ringtail Possums (*Pseudocheirus occidentalis*) identified under condition 4(b).

5. Cockatoo Management

- (a) Prior to undertaking any clearing authorised under this Permit, the area(s) shall be inspected by a *fauna specialist* who shall identify *habitat tree(s)* suitable to be utilised by Carnaby's Cockatoo (*Calyptorhynchus latirostris*), Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii subsp. naso*) and/or Baudin's Cockatoo (*Calyptorhynchus baudinii*).
- (b) Prior to clearing, any *habitat tree(s)* identified by condition 5(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in condition 5(a).
- (c) Where fauna are identified in relation to condition 5(b) of this Permit, the Permit Holder shall ensure that no taking of identified fauna occurs unless approved by the CEO.

6. Native vegetation conservation (conservation covenant)

- (a) In respect to the area hatched red on attached Plan 3984/1, the Permit Holder shall enter into a conservation covenant, agreement to reserve or some other form of binding undertaking to establish and maintain native vegetation.
- (b) The conservation covenant, agreement to reserve or some other form of binding undertaking to establish and 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 establish and 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 establish and 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 establish and 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 1 August 2014.

7. Offsets

- (a) The Permit Holder must implement and adhere to the Offset Rehabilitation Management Plan (Lot 100 (Wonnerup) – Proposed Offset Conservation Project Abba River and Woddidup Creek Riparian Zones).
- (b) If it is necessary to modify the Offset Rehabilitation Management Plan, then the Permit Holder must provide the modified Offset Rehabilitation Management Plan to the CEO and seek the CEO's approval.

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) within 3 months following completion of mining activities, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:
 - (i) reshaping the surface of the land so that it is consistent with the surrounding 20 metres of uncleared land; and
 - (ii) ripping the pit floor and contour batters within the extraction site; and
 - (iii) laying the vegetative material and topsoil retained under condition 8(a) on the cleared area(s); and
 - (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 24 months of undertaking *revegetation* and *rehabilitation* 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 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

- (a) In relation to Western Ringtail Possum management pursuant to condition 4 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 and date where relocated Western Ringtail Possums (*Pseudocheirus occidentalis*) were released, 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.
- (b) In relation to the cockatoo management pursuant to condition 5 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 species name of fauna reasonably likely to utilise, or that have been observed utilising, the habitat/habitat tree(s);
- (c) In relation to native vegetation conservation covenant pursuant to condition 6 of this Permit:
 - (i) within one month of executing and returning the conservation covenant, agreement to reserve or other form of binding undertaking the Permit Holder shall notify the CEO in writing that the conservation covenant, agreement to reserve or other form of binding undertaking has been completed.
- (d) In relation to the offset of areas pursuant to condition 7:
 - (i) the location of any area of *offsets* 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 *offset* activities undertaken, inclusive of monitoring and maintenance; and
 - (iii) the size of the *offset* area (in hectares).

- (e) 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;
 - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
 - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*.

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 and 31 December of the preceding year.
- (b) Prior to 23 August 2019, 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;

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 is engaged by the Permit Holder for the purpose of providing environmental advice, 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;

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

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

habitat tree(s) means trees that have a diameter, at average adult human chest height, of greater than 50cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts;

local provenance means native vegetation seeds and propagating material from natural sources within 20 kilometres 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;

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 a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

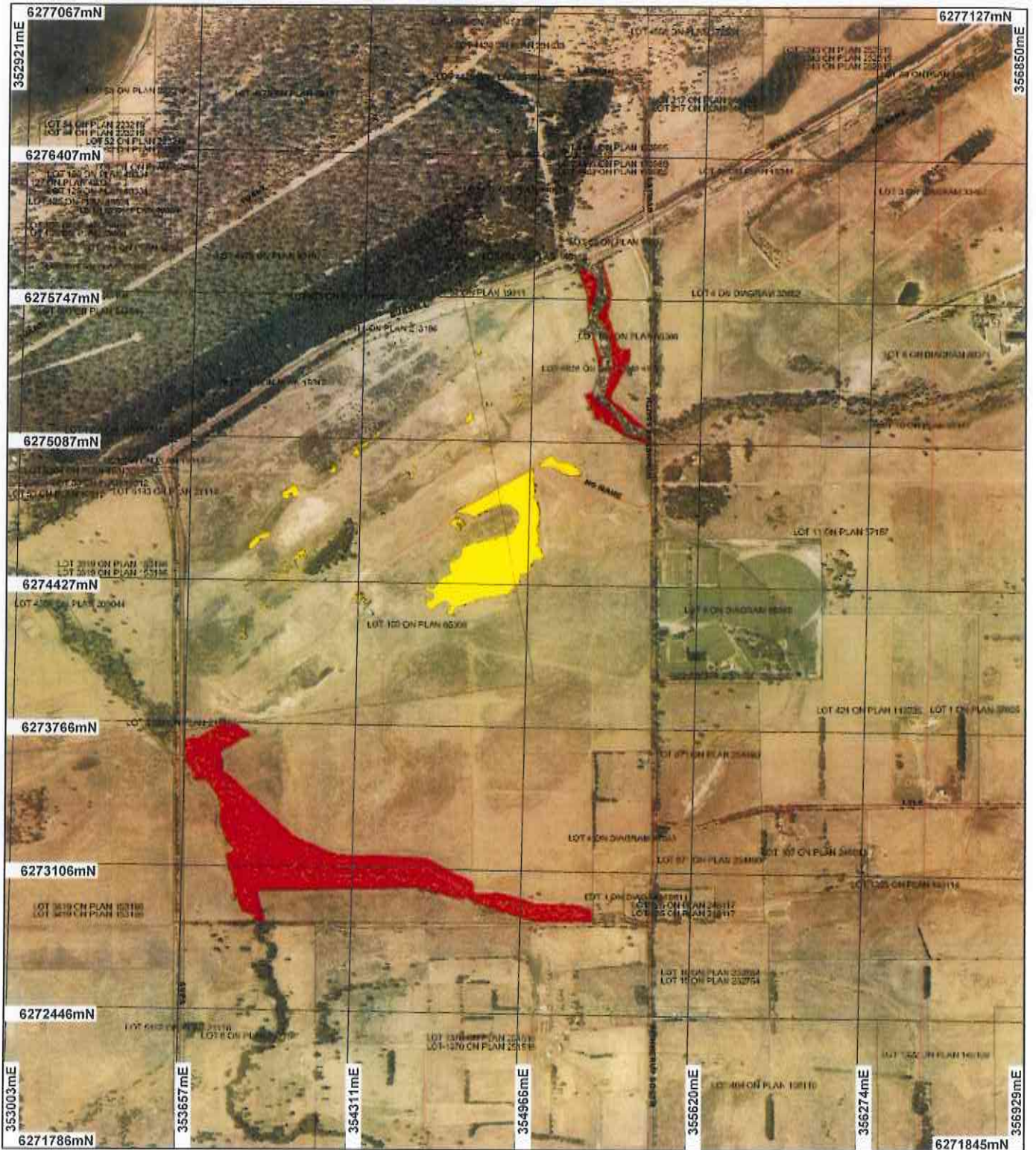
Roxane Shadbolt

Roxane Shadbolt
A/MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

1 November 2012

Plan 3984/1



LEGEND

Clearing Instruments

- Areas Subject to Conditions
- Areas Approved to Clear
- Road Centrelines
- Cadastre

--> image index

- Recently added
- Coverage

Busseton 50cm Orthomosaic - Landgate 2007



0 625 m

Scale 1:23268

(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.

R. Shadbolt Date *1/11/12*

Roxane Shadbolt

Officer with delegated authority under Section 20 of the Environmental Protection Act 1985

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 3984/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Cable Sands (WA) Pty Ltd

1.3. Property details

Property: LOT 100 ON PLAN 65306 (Lot No. 100 WONNERUP SOUTH YALYALUP 6280)
Local Government Area: City of Busselton
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 1 November 2012

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
The vegetation under application is mapped as Beard vegetation associations 959 and 1136: 959 - Low woodland; banksia. 1136 - Medium woodland; marri with some jarrah, wandoo, river gum and casuarinas. (Shepherd et al, 2001) The vegetation under application is also been mapped as Mattiske vegetation complexes AB and AF. AB - Woodland and open forest of <i>Corymbia calophylla</i> on flats and low rises in the humid zone. AF - Woodland of <i>Corymbia calophylla</i> - <i>Agonis flexuosa</i> and tall shrubland of <i>Myrtaceae</i> - <i>Proteaceae</i> spp. on terraces and valley floors in the humid zone. (Mattiske and Havel, 1998)	The proposal is to clear 15.5 hectares of native vegetation within Lot 100 on Plan 65306, Yalyalup for the purpose of mineral sand mining. The majority of the vegetation under application has been assessed as being in a degraded (Keighery, 1994) condition. The degraded condition of the vegetation owes to constant grazing and trampling from domestic stock, weed invasion and rabbits (Onshore Environmental Consultants Pty Ltd, 2009).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the vegetation under application was determined via a site inspection conducted by the Department of Environment and Conservation (DEC, 2010a) and through the use of digital imagery (Busselton 50cm Orthomosaic - Landgate 2007).

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 at variance to this Principle**

The amended application is to clear 15.5 hectares of native vegetation within Lot 100 on Plan 65306, Yalyalup for the purpose of mineral sand mining. Of this 15.5 hectares 3.4 hectares will not be intentionally cleared however is at risk through dewatering.

The initial proposal was to clear 19.5 hectares of native vegetation which included vegetation growing in association with Cokelup wetland. The assessment of the initial application concluded that the proposed clearing was at variance to principles (a), (b), (e) and (f), maybe at variance to principles (c), (d), (g), (h) and (i) and not likely to be at variance to principle (j). The applicant was notified of the environmental issues identified and was asked to modify the application. In response the applicant has modified the mine plan to avoid clearing vegetation growing in association with Cokelup wetland. An offset proposal has also been provided to

compensate for the loss of significant remnants and fauna habitat. The following assessment is for the amended area.

The remnant patches of vegetation under application are predominately in a degraded (Keighery, 1994) condition. The degradation of this vegetation owes to constant grazing and trampling from domestic stock, weed invasion and rabbits (Onshore Environmental Consultants Pty Ltd, 2009).

A flora survey conducted over the area under application recorded a total number of 105 plant taxa from 34 families and 82 genera (Onshore Environmental Consultants Pty Ltd, 2009). Of the 105 flora, 61 plant taxa were native and 44 were introduced.

Three species listed as significant taxa on the Busselton Plain (Web et. al 2002) were observed on site; *Melaleuca lateriflora* ssp. *Cutiloba*, *Triglochin muelleri*, *Myriocephalus helichrysoides* and *Angianthus drummondii* (DEC, 2010a).

Eight records of the priority ecological community (PEC)'Busselton Yate community (Eucalyptus cornuta, *Agonis flexuosa* and Eucalyptus *decipiens* forest on deep yellow-brown siliceous sands over limestone)' were located within 3km of the area under application. The area under application does not fall within the buffer zone of any of these PECs .

A fauna survey conducted by Harewood (2009) identified the following fauna of conservation significance within the application area; *Calyptorhynchus baudinii* (Baudin's Cockatoo), *Calyptorhynchus latirostris* (Carnaby's Cockatoo), *Merops ornatus* (Rainbow Bee-eater) and *Pseudocheirus occidentalis* (Western Ringtail Possum). A further ten species of conservation significance were listed as likely to utilise the vegetation under application.

The remnant Bassendean Dune vegetation located within Lot 100 supports an outlying occurrence of Tuart (*Eucalyptus gomphocephala*) (DEC, 2010a). This species on Spearwood and Quindalup Dunes is only known to have outlying populations beside the Moore, Swan, Canning, Murray, Serpentine and Harvey Rivers (Keighery et.al 2002). This occurrence of the species on Bassendean Dunes is very significant and is the only known outlying population south of the Harvey River.

Tuart trees in this Bassendean Dune population are very large indicating that they are naturally occurring. The southern Tuart population is parkland cleared (trees over pasture) and the northern extent which falls outside of the clearing footprint is contiguous with a *Melaleuca* dominated wetland. The protection of outlying Tuart populations is recognised as an urgent recommendation in Keighery et. al (2002).

Given the area under application contains habitat for fauna of conservation significance and significant flora this application remains at variance to this clearing principle.

To mitigate the impacts of the proposed clearing the applicant has provided an offset proposal which includes the enhancement of 27.6 hectares of native vegetation along Abba River and Woddidup Creek (tributary to Sabina River), and the rehabilitation of 10.9 hectares along Woddidup Creek.

Methodology

References:

Harewood (2009)
Keighery (1994)
Keighery et.al (2002)
Onshore Environmental Consultants Pty Ltd (2009)
Web et. al (2002)

GIS database:

- SAC Biodatasets -accessed 14 Oct 2010
- Hedde Vegetation Complexes
- Pre European 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 is at variance to this Principle

A fauna survey (Harewood, 2009) was conducted over the application area and a total of 53 fauna species were observed. Four fauna species of conservation significance were observed during this survey; *Calyptorhynchus baudinii* (Baudin's Cockatoo), *Calyptorhynchus latirostris* (Carnaby's Cockatoo), *Merops ornatus* (Rainbow Bee-eater) and *Pseudocheirus occidentalis* (Western Ringtail Possum). All of these species are listed on both State and Federal threatened species lists. A further 10 species of conservation significance are likely to utilise the vegetation within the property (Harewood, 2009).

Harewood (2009) conducted a habitat tree survey over the application area and recorded a total of 158 trees with a diameter at breast height greater than 50cm. Thirty six percent (57 trees) of the trees were observed to contain hollows (Harewood, 2009). A total of eleven trees contained hollows, which based on their size and orientation, appear to be suitable for black cockatoos to enter. The area under application contains a high

proportion of trees of potential size to be used as black cockatoo nesting trees.

Harewood (2009) states that Carnaby's Cockatoo are likely to infrequently visit the area under application as suitable foraging and roosting habitat exists on site. Foraging evidence for both Baudin's and Carnaby's Cockatoo has been observed on site (Harewood, 2009). In addition, black cockatoos have been observed foraging on the property (DEC, 2010a).

Carnaby's Cockatoo is listed as endangered, with populations declining dramatically due to land clearing for agriculture in regional areas and for urban development around Perth (Shah, 2006).

A desktop assessment identified 10 records of the Western Ringtail Possum (*Pseudocheirus occidentalis*, vulnerable) within the local area (10km radius). Harewood (2010) carried out day and night time surveys over Lot 100 and observed dreys, tree hollows, scats and Western Ringtail Possums. In total 25 Western Ringtail Possum dreys were observed on the property, 15 of which are located within the area proposed to be cleared.

A night time survey carried out on 27 October 2009 recorded a total of eight Western Ringtail Possums within the remnants located in the central area of Lot 100 (Harewood, 2009). Ten Western Ringtail Possums were located in these same areas during 2006 surveys (Harewood, 2009). A previous survey conducted over land west of the application area recorded a total of 51 Western Ringtail Possums over the course of two nights (Harewood, 2009).

Although most of the evidence of Western Ringtail Possums was found in the large central area of vegetation the smaller remnant patches are likely to be used as refuge for transient individuals moving between the central area of vegetation and Abba and Sabina Rivers.

The north west corner of the area under application has been mapped as 'Supporting Habitat' for the Western Ringtail Possum, and therefore it is considered to be significant as a habitat linkage and the proposed clearing of this linkage will create a disjuncture between patches that affects the ability of Western Ringtail Possums and fauna in general to move (Commonwealth of Australia, 2009).

Sabina River is located approximately 1km south west of the area under application. This river is mapped as an ecological linkage (Molloy et al., 2009) which links Millbrook State Forest and Whicher National Park in the south to Ludlow State Forest and Tuart Forest National Park in the north. It is likely that fauna located on the property under application will use this ecological link to move between these conservation areas.

Considering the above the area under application is significant habitat for fauna indigenous to Australia, therefore this proposal is at variance to this clearing principle.

It is noted that the applicant has provided an offset which includes the enhancement of 27.6 hectares of native vegetation along Abba River and Woddidup Creek (tributary to Sabina River), and the rehabilitation of 10.9 hectares along Woddidup Creek. The applicant is proposing to plant species which will provide potential foraging and nesting habitat for Western Ringtail Possums and black cockatoos. The offset proposal will enhance the ecological corridors along Sabina and Abba Rivers.

Fauna management conditions will assist in ensuring that no fauna of conservation significance are impacted during the clearing process.

Methodology

References:

Commonwealth of Australia (2009)

DEC (2010)

Harewood (2009)

Molloy et al (2009)

Shah (2006)

GIS Database:

- Hydrography linear

- Pre European Vegetation

- SAC Biodatasets - accessed 14 October 2010

(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 numerous records of rare flora within the local area (10km radius). The closest recorded species are *Banksia squarrosa* subsp. *argillacea* and *Grevillea elongate*.

In Autumn 2006 and Spring 2009 Onshore Environmental Consultants Pty Ltd (2009) conducted quadrat sampling and ground truthing of all native remnants within Lot 100 and found no plant taxa gazetted as rare flora.

The applicant has revised the clearing footprint to omit the area (Cokelup wetland) which was the only area

likely to support rare flora.

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

Methodology References:
Onshore Environmental Consultants Pty Ltd (2009)

GIS Database:
- Pre European Vegetation
- SAC Biodatasets - accessed 14 October 2010

(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

A desktop assessment did not identify any threatened ecological communities (TEC) within a 10km radius of the area under application. However, the clay based Cokelup wetlands which occur adjacent to the proposed clearing area have been inferred to support examples of Floristic Community Type (FCT) 7 (Herb rich saline shrublands in clay pans), FCT09 (Dense shrublands on clay flats) and FCT13 (Deeper wetlands on heavy soils) (Keighery et.al 2002, Webb et.al 2009). Both FCT07 and FCT09 are listed as Vulnerable TECs.

The applicant has removed the area of Cokelup wetland from the clearing footprint to ensure no TEC'S are cleared.

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

Methodology References:
Keighery et.al (2002)
Webb et.al. (2009)

GIS Database:
- SAC Biodatasets - accessed 14 October 2010

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is at variance to this Principle

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregions*			
Swan Coastal Plain	1 501 209.19	587 889.09	39.16
Shire*			
Busselton	146 478.84	62 783.45	42.86
Beard Vegetation Association*			
949	218 193.94	125 008.96	57.29
1136	86 320.42	32 118.24	37.21
Beard Vegetation Association within Bioregion*			
949	209 993.26	122 087.03	58.14
1136	85 526.48	31 778.13	57.29
Mattiske Vegetation Complex**			
AB	8 007.38	656.95	8.2
AF	1 905.43	215.14	11.29

* (Shepherd 2009)

** (Mattiske Consulting 1998)

There is approximately 25 per cent of native vegetation remaining within the local area (10km radius).

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).

Approximately 90 per cent of the vegetation under application falls within Mattiske vegetation complex AB (Abba).

This vegetation complex is dominated by woodland and open forest of marri (*Corymbia calophylla*) (Havel and Mattiske, 2002). Vegetation complex AB has been largely cleared for agriculture and 2002 data indicates that there is only 2 per cent of the Pre-European extent remaining none of which is protected in reserves (Havel and Mattiske, 2002). The applicant is proposing to clear approximately 14 hectares in this AB complex. Based on the 1998 data above 14 hectares is approximately 2 per cent of the total vegetation remaining in this complex.

Limited clearing is also proposed within vegetation complex AF (abba) which has less than 15 per cent of its pre-European extent remaining.

The highest priority for protection of values on poorly reserved vegetation complexes are those that occur outside State forest and particularly, those with zero or a very low level of reservation (Havel and Mattiske, 2002). Considering vegetation complexes AB and AF are poorly represented in conservation reserves the remnants under application should be considered for protection.

The vegetation communities under application have been heavily cleared, therefore all remaining remnants are considered to be significant irrespective of their condition.

Despite the degraded nature of the vegetation under application it is considered to be significant as it contains significant habitat for fauna of conservation significance.

Given the above information the vegetation under application is considered to be a significant remnant within an extensively cleared area. Therefore, the proposed clearing is at variance to this principle.

It is noted that the applicant has provided an offset which includes the enhancement of 27.6 hectares of native vegetation along Abba River and Woddidup Creek (tributary to Sabina River), and the rehabilitation of 10.9 hectares along Woddidup Creek. The proposed offset areas are located within vegetation complex AF.

Methodology

Reference:

Commonwealth of Australia (2001)
Havel and Mattiske (2002)
Mattiske Consulting (1998)
Shepherd (2009)
Shire of Busselton (2010)

GIS Database:

- Busselton 50cm Orthomosaic - Landgate 2004
- Mattiske Vegetation - CALM 1/03/1998
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 14 October 2010

(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 at variance to this Principle

Abba River and Sabina River both run through the property under application. Abba River is located approximately 220m north east of the area to be cleared and Sabina River is approximately 1km south west. Both of these rivers flow into the RAMSAR listed Vasse - Wonnerup Estuary.

The Vasse - Wonnerup System is located 1km north of the area proposed to be cleared. This site supports tens of thousands of resident and migrant waterbirds and has the largest regular breeding colony of Black Swan in south-western Australia (DEC, 2010b). This wetland is also partially mapped as an ANCA wetland.

A small Resource Enhanced category wetland is located approximately 840m east of the area under application. Resource Enhanced category wetlands are considered priority wetlands which may have been partially modified but still retain substantial ecological attributes and functions (Water and Rivers Commission, 2001).

The northern section of the application area falls within a Multiple Use category wetland. Multiple Use wetlands are said to have few important ecological attributes and functions remaining (Water and Rivers Commission, 2001).

An area within the northern section of the property under application has been identified as Cokelup wetland. Cokelup wetland is described as Spearwood Dune/Pinjarra Plain Interface Wetlands and has been recognized as being highly cleared and any intact examples on private property require protection (Webb et.al, 2009). The occurrence of this community, while open to stock grazing, is still in a very good (Keighery, 1994) condition. The wetland consists of a range of native annually renewed species (*Eleocharis acuta*, *Myriocephalus helichrysoides*, *Bulbine semibarbata*, *Juncus bufonius*, *Triglochin mucronata*, *Triglochin muelleri*, *Angianthus drummondii*, *Angianthus preissianus*, *Pogonolepis stricta*, *Schoenus plumosus*, *Hyalosperma simplex*, *Brachyscome iberidifolia*, *Cotula coronopifolia*, *Bolboschoenus caldwellii*, *Isolepis cyperoides*) including one Priority 3 listed species (*Angianthus drummondii*) (DEC, 2010a).

In addition to Priority flora these clay based wetlands have been inferred to support examples of Floristic Community Type FCT07 (Herb rich saline shrublands in clay pans), FCT09 (Dense shrublands on clay flats) and FCT13 (Deeper wetlands on heavy soils) (Keighery et.al 2002 and Webb et.al. 2009). Both FCT07 and FCT09 are listed as Vulnerable threatened ecological communities (TEC). It is highly likely with the appropriate sampling and analysis that FCT07 in particular may be found to be within this wetland area.

The significance of this area of wetland vegetation was recognised in the Busselton Plain report (Webb et.al 2009) and was mapped as a Busselton Plain reference area. This area of Cokelup wetland vegetation is the only large intact area of this plant community outside of public reservation, there are only two examples of this plant community in public reservation.

In response to DEC's initial assessment the proponent has revised the clearing footprint and has committed to retaining vegetation within the Cokelup wetland. The modified proposal may still clear and excavate within the wetland body including the potential removal of some wetland vegetation. In addition, areas mapped as Multiple Use wetland are still proposed to be cleared.

Given that some wetland vegetation will still be cleared this principle remains at variance.

Methodology

References:

DEC (2010a)
DEC (2010b)
Keighery et. al (2002)
Water and Rivers Commission (2001)
Webb et. al (2009)

GIS Database:

- ANCA wetlands
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- 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 area under application has been mapped as soil type Ca38 which Northcote et. al (1968) describes as 'sandy dunes with intervening sandy and clayey swamp flats: chief soils are leached sands'.

As the majority of the property is already cleared and the proposal is to remove isolated remnant patches the risk of increase wind and water erosion is minimal.

The application area falls within an area mapped as having a moderate to low Acid Sulphate Soil risk. The disturbance of these potential Acid Sulphate Soils is more likely to result from the intended land use rather than the proposed clearing.

This proposal is not likely to be at variance to this clearing principle.

Methodology

References:

Northcote et al. (1968)

GIS database:

- Acid Sulfate Soil Risk Map, Swan coastal Plain
- Average Annual Rainfall Isohyets
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Hydrogeology, statewide
- Hydrography, linear
- 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

Ludlow State Forest is located approximately 330m north of the application area and the Tuart Forest National Park is located approximately 750m north.

The proposal to clear 15.5 ha of vegetation will see an increase in weeds in areas adjacent to the clearing. Bussel Highway is located between the property under application and Ludlow State Forest. This physical boundary should be sufficient in stopping the spread of weeds into this conservation reserve.

Approximately 90 per cent of the vegetation under application falls within vegetation complex AB (Havel and Mattiske, 2002). No vegetation within this complex is managed under conservation reserves. As the vegetation under application provides habitat that is not represented on conservation land it is considered significant.

The applicant has advised that weeds are already well established and distributed within the remnant vegetation area. Since purchasing the property in 2009 the proponent states that they have implemented weed control within some areas proposed to be rehabilitated and restored (Bemax, 2011). The applicant proposes to extend this control program to all areas proposed for rehabilitation following mine project approval (Bemax, 2011).

The central area of vegetation potentially acts as a stepping stone for fauna moving between Ludlow State Forest and other conservation reserves. Removing this stepping stone may impede fauna dispersal into the neighbouring State Forest.

The application is proposing to clear remnant vegetation within vegetation complex AB and also will be removing a potential stepping stone of vegetation between reserves, therefore the proposed clearing may be at variance to this principle.

It is noted that the applicant has provided an offset which includes the enhancement of 27.6 hectares of native vegetation along Abba River and Woddidup Creek (tributary to Sabina River), and the rehabilitation of 10.9 hectares along Woddidup Creek. This proposed offset will enhance ecological corridors between conservation reserves.

Methodology References:
Bemax (2011)
Havel and Mattiske (2002)

GIS Database:
- Busselton 50cm Orthomosaic - Landgate 2004
- 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**
The initial proposal was to partially clear within Cokelup wetland. The removal of deep rooted perennials and vegetation associated within the Cokelup wetland was likely to have ongoing impacts on the larger wetland body through changes on both surface and groundwater hydrology.

Any deterioration in the quality of surface and groundwater is likely to result from the end land use rather than from the proposed clearing.

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

Methodology GIS database:
- Evapotranspiration Isopleths
- Groundwater Salinity Statewide
- Hydrography, linear
- Mean Annual Rainfall Isohytes
- Topographic Contours, Statewide

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments **Proposal is not likely to be at variance to this Principle**
The clearing of the vegetation under application is not likely to cause, or exacerbate the incidence or intensity of flooding.

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

Methodology GIS database:
- Hydrography, linear
- Mean Annual Rainfall Isohytes
- Topographic Contours, Statewide

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

Comments
The applicant, through negotiations with the Department of Sustainability, Environment, Water, Population and

Communities has developed and committed to an offset package to mitigate the impact the proposed clearing may have on any foraging or nesting habitat and to improve the habitat value of the remnant vegetation on site (Bemax, 2011). The proposal is to enhance 27.6 hectares of vegetation and the creation of the additional 10.9 hectares.

The City of Busselton (2012) has granted planning consent for Cable Sands Mineral Resources Development. This approval was granted on 9 November 2012.

Department of Environment and Conservation's Industry Regulation has issued Works Approval (W5174/2012/1) to Cable Sands (DEC, 2012).

The clearing area falls within an area (Busselton - Capel) covered by the Rights in Water and Irrigation Act 1914 (RIWI Act). The Department of Water has issued Cable Sands (W.A.) Pty Ltd with a Licence to Take Water in accordance with the RIWI Act (DoW, 2012)

This proposal was referred to the EPA. On 14 June 2010 the EPA set the level assessment as 'Not Assessed - Managed under Part V of the EP Act (clearing)'.

Cable Sands do not require any approvals from the Department of Mines and Petroleum as they hold a 'pre 1890 plan title'.

Three submissions (2010a, 2010b and 2010c) have been received in regards to this application. All submissions raised concerns about the area under application being significant flora and fauna habitat especially for the Western Ringtail Possum. These concerns have been addressed in the clearing principles above. Submission (2010a) also raised concerns about the impacts the end land use may have on the environment. These concerns do not relate to the clearing of native vegetation so have not been discussed in detail.

Methodology

References

City of Busselton (2012)
DEC (2012)
DoW (2012)
Bemax (2011)
Submission (2010a)
Submission (2010b)
Submission (2010c)

GIS database:

- RIWI Act, Groundwater Areas
- RIWI Act, Irrigation Districts
- Town Planning Scheme Zones

4. References

- Bemax (2011) Offset Rehabilitation Management Plan (ORMP). Lot 100 (Wonnerup) - Proposed Offset Conservation Project Abba River and Woddidup Creek Riparian Zones (DEC Ref: A404469).
- City of Busselton (2012) Decision on Application for Planning Consent, 128 Wonnerup South Road, Yalyalup (DEC Ref: A495419).
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- DEC (2010a) Site Inspection Report for Clearing Permit Application CPS 3984/1, Lot 100 Wonnerup South Road, Yalyalup. Site inspection undertaken 14/10/2010. Department of Environment and Conservation, Western Australia (DEC Ref: A346609).
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Submission (2010a). Public submission received 25 October 2010. DEC Ref: A342372

Submission (2010b). Public submission received 25 October 2010. DEC Ref: A342208

Submission (2010c). Public submission received 28 October 2010. DEC Ref: A343640

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5. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)