



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3203/1

File Number: 20929

Duration of Permit: From 2 October 2010 to 2 October 2020

PERMIT HOLDER

B & J Catalano Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

LOT 102 ON PLAN 55996 (CAPEL RIVER 6271)

AUTHORISED ACTIVITY

- (a) The Permit Holder shall not clear more than 4 hectares of native vegetation, within the area hatched yellow on attached Plan 3203/1a.
- (b) The Permit Holder shall not clear any native vegetation after 2 October 2015.

CONDITIONS

1. Dieback and weed control

- (a) 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*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) shall only move soils in *dry conditions*;
 - (iii) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) At least once in each 12 month period for the *term* of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas hatched red on attached Plan 3203/1b.

2. 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) at an *optimal time* following clearing authorised under this Permit, *revegetate* and *rehabilitate* within the areas hatched red on attached Plan 3203/1b by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) ripping the pit floor and contour batters within the extraction site; and
 - (iv) laying the vegetative material and topsoil retained under condition 2(a) on the areas hatched red on attached Plan 3203/1b; and

- (v) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area; and
 - (vi) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.
- (c) within 24 months of undertaking *revegetation* and *rehabilitation* in accordance with condition 2(b) of this Permit:
- (i) engage an *environmental specialist* to determine the species composition, structure and density of the areas *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 2(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 2(b)(v) and (vi) of this Permit.

3. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit in relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 2 of this Permit:

- (a) 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;
- (b) a description of the *revegetation* and *rehabilitation* activities undertaken;
- (c) the size of the area *revegetated* and *rehabilitated* (in hectares); and
- (d) the species composition, structure and density of *revegetation* and *rehabilitation*.

4. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 3 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 2 July 2020 the permit holder must provide to the CEO a written report of records required under condition 3 of this Permit where these records have not already been provided under condition 4(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;

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 10 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;

optimal time means the period from April to June for undertaking *direct seeding*, and the period from May to June for undertaking *planting*;

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;

term means the duration of this Permit, including as amended or renewed;

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*.

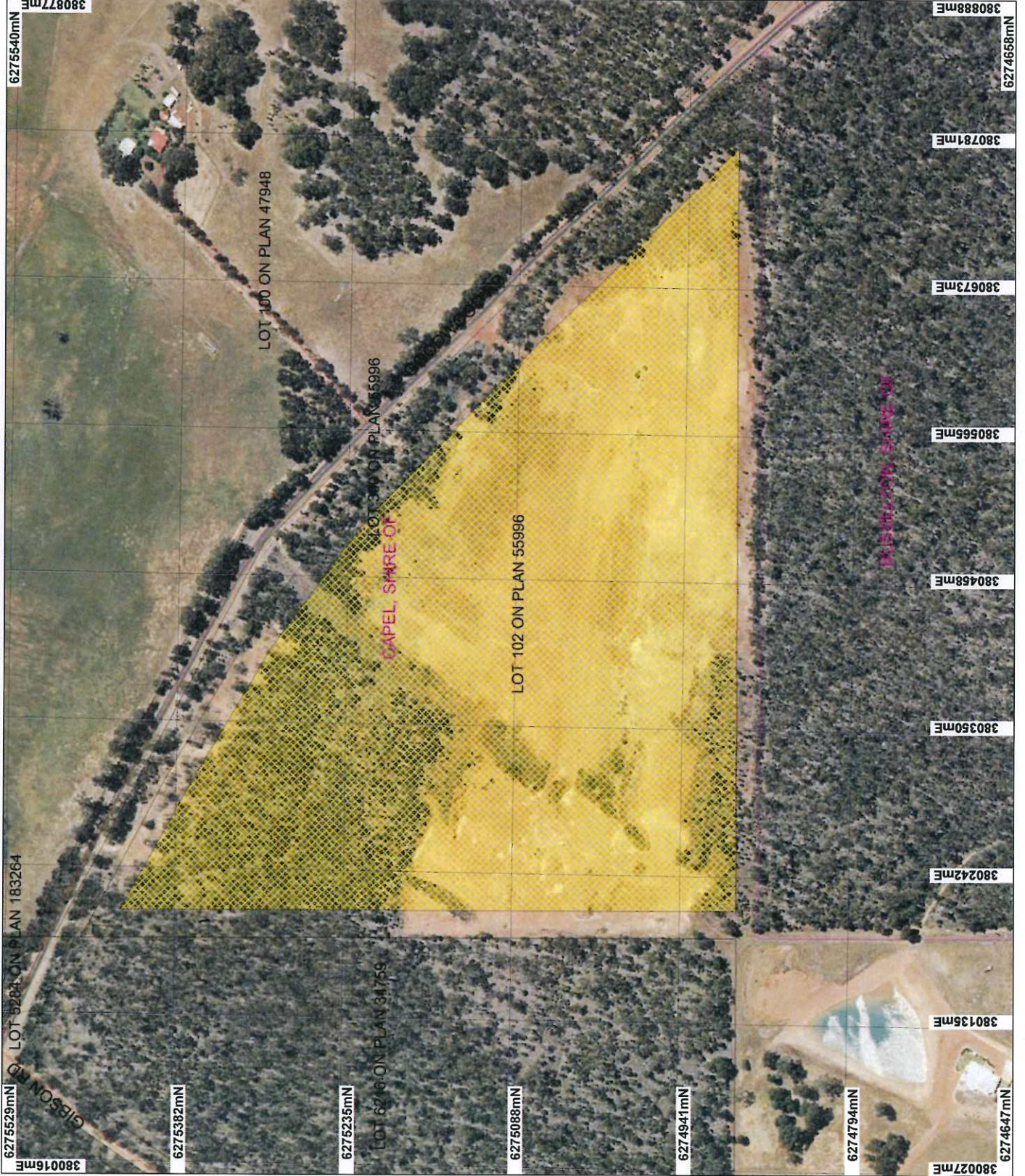


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

2 September 2010

Plan 3203/1a



LEGEND

- Enderburg Inc. 10/20/2011**
- Areas Approved to Clear
 - Road Centrelines
 - Cadastre_1
 - Dennybrook 50cm (2004)
 - Local Government



Scale 1:4200
 (Approximate when reproduced at A1)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. The map result in geometric distortion of measurement inaccuracies.

K Faulkner Date 2/9/10

K Faulkner

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.



Department of Environment and Conservation
 Our environment, our future
 WA Crown Copyright 2002

Plan 3203/1b



LEGEND

Clearing Restrictions

- Areas Subject to Conditions
- Road Centrelines
- Cadastral
- Donnybrook 50cm (2004)
- Local Government /



Scale 1:4200

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

K Faulkner Date 2/9/10

K Faulkner

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.



Department of Environment and Conservation

Our environment, our future
WA Green Copyright 2002



1. Application details

1.1. Permit application details

Permit application No.: 3203/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: B & J Catalano Pty Ltd

1.3. Property details

Property: LOT 102 ON PLAN 55996 (GOODWOOD ROAD, CAPEL RIVER 6271)
Local Government Area: SHIRE OF CAPEL

1.4. Application

Clearing Area (ha)	Method of Clearing	For the purpose of:
4	Mechanical Removal	Extractive Industry

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: 1182 - Medium woodland; Eucalyptus rudis and Melaleuca rhapsiophylla (Hopkins et al, 2001).	The vegetation under application comprises 4ha of native vegetation in overall 'good' (Keighery, 1994) condition (DEC, 2009) with some 'degraded' (Keighery, 1994) patches throughout and some areas recognised as being in 'very good' (Keighery, 1994) condition (Bennett Environmental Consulting Pty Ltd, 2009), which is proposed to be cleared for the purposes of extractive industry. The vegetation consists predominantly of Corymbia calophylla (Marri) and Eucalyptus marginata (Jarrah) over Jarrah and Marri regrowth and understorey species including Daviesia decurrens, Drosera erythrorhiza, Lomandra nigracans, Hibbertia hypericoides, Hakea lissocarpha, Patersonia occidentalis, Hakea amplexicaulis, Persoonia longifolia, Macrozamia sp., Xanthorrhoea preissii, Tetraia capillaris, Desmodium fasciculatus, Mirbelia dilatata and Comesperma virgatum (DEC, 2009).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The condition of the vegetation was confirmed during a site visit under taken on the 30th July 2009 (DEC, 2009).
	The vegetation shows evidence of historic disturbance including fire, selective logging and past clearing however, regrowth across the site of both understorey and overstorey species is very good. Weed encroachment is restricted to the edges of the remnant vegetation.		
Hedde Vegetation Complexes:	As above.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	As above.
Jarrahwood Complex - consist of an open forest of jarrah-marri on the slopes, and woodland of Eucalyptus patens-Eucalyptus megacarpa-Banksia littoralis and patches of Melaleuca preissiana on the moister sites. Common understorey species include Gahnia trifida, Hakea ceratophylla, Hakea lisantha, Hypocalymma angustifolium, Dasyogon hookeri, Pultenaea reticulata, Taxandria parviceps, Pericalymma ellipticum,			

Adenanthos obovatus, *Meeboldina scariosa*, *Taxandria linearifolia* and *Lepidosperma angustatum* (Hedde et al, 1980).

Preston Complex - supports vegetation ranging from a fringing woodland of flooded gum (*Eucalyptus rudis*) and peppermint (*Agonis flexuosa*) along the streams to a woodland of Marri and Jarrah on the slopes. The composition of the understorey is similar to that in the Jarrahwood complex (Hedde et al, 1980).

Mattiske Vegetation Association: *Rosa* As above.
- woodland to open forest of *Corymbia calophylla*-*Eucalyptus marginata* subsp. *marginata*-*Xylomelum occidentale* on slopes and tall shrubland of *Taxandria linearifolia* in valley floors in the humid zone (Mattiske and Havel, 1998).

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) As above.

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 vegetation under application is in overall 'good' (Keighery, 1994) condition with 'degraded' (Keighery, 1994) patches throughout (DEC, 2009) and some areas recognised as being in 'very good' (Keighery, 1994) condition (Bennett Environmental Consulting Pty Ltd, 2009). The vegetation is consistent with the above mentioned mapped vegetation complexes comprising open woodland of *Corymbia calophylla* (Marri) and *Eucalyptus marginata* (Jarrah) over a diverse understorey of shrubs, sedges and herbs including species such as *Daviesia decurrens*, *Drosera erythrorhiza*, *Lomandra nigracans*, *Hibbertia hypericoides*, *Hakea lissocarpha*, *Patersonia occidentalis*, *Hakea amplexicaulis*, *Personia longifolia*, *Macrozamia riedlei*, *Xanthorrhoea* sp., *Tetraria capillaris*, *Desmocladius fasciculatus*, *Mirbelia dilatata* and *Comesperma virgatum*.

There are signs of disturbance at the site from fire, selective logging and historic clearing however, there has been good regeneration at the site (DEC, 2009). Edge effects were observed on site with non-aggressive weed encroachment and the removal of vegetation previously for gravel used in the Goodwood Road construction which has caused increased degradation along the edges of the vegetation (DEC, 2009).

Four declared rare and twenty two priority flora species have been recorded within the local area (10km radius) of the proposed clearing. Of these species, one declared rare species, *Daviesia elongata* subsp. *elongata* and at least five priority species, *Boronia humifusa* (Priority 1), *Hemigenia rigida* (Priority 1), *Logania wendyae* (Priority 1), *Synaphea* sp. *Argyle* (Priority 1) and *Loxocarya magna* (Priority 3) have been recognised as being the most likely to occur within the applied clearing area as they have been recorded on similar soils and vegetation types to the area under application.

A flora and vegetation survey was undertaken by Bennett Environmental Consulting Pty Ltd on the 3rd of December 2009 to target rare flora species *Daviesia elongata* subsp. *elongata* and any priority flora known to occur within the local area. No declared rare or priority flora species were recorded during the survey (Bennett Environmental Consulting Pty Ltd, 2009).

The vegetation under application contains some habitat trees with hollows (DEC, 2009). Brush-tailed Possum scats were identified at the base of one of these habitat trees (DEC, 2009). Despite the presence of hollows, the vegetation under application is unlikely to provide significant habitat for threatened fauna as the vegetation consists of dense regrowth with trees that are too small with too few hollows present throughout the area as well as the existence of conservation areas directly adjacent with vegetation in better condition.

The remnant of vegetation remaining on Lot 102 is considered to be a portion of a core linkage of native vegetation across the local area (EPA, 2009 & Molloy et al, 2009) and although the removal of this vegetation is unlikely to directly significantly impact upon this linkage due to the presence of native vegetation in conservation areas neighbouring the applied clearing area, the removal of this vegetation may result in indirect impacts such as increased edge effects through weed encroachment and/or the introduction of dieback through the clearing process. As such measures implemented to reduce the risk of introduction and/or spread of weeds and dieback will help to minimise this risk.

Given that the vegetation under application contains potential habitat trees and the overall 'good' (Keighery, 1994) condition of the vegetation (DEC, 2009), it is concluded that the vegetation may comprise a high level of biological diversity.

- Methodology** **References:**
- Bennett Environmental Consulting Pty Ltd (2009)
 - DEC (2009)
 - EPA (2009)
 - Heddle et al (1980)
 - Keighery (1994)
 - Molloy et al (2009)
 - WA Herbarium - Florabase accessed 29/07/2009
- GIS Databases:**
- Donnybrook 50cm Orthomosaic - Landgate 2004
 - Heddle Vegetation Complexes - DEP
 - Mattiske Vegetation - CALM
 - SAC Biodatasets - Accessed 23/07/2009
 - Soils, Statewide - DA

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

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

Six threatened and priority fauna species occur within the local area (10km radius) of the applied clearing area with the closest record being the Brush-tailed phascogale (*Phascogale tapoatafa*), approximately 1.2km south east of the applied clearing area.

The Brush-tailed phascogale is classed as Vulnerable under the Wildlife Conservation Act and inhabits areas of "dry sclerophyll forests and open woodlands that contain hollow-bearing trees but a sparse ground cover" (DEC, 2006).

Potential habitat trees with hollows were identified during the site visit (DEC, 2009). Brush-tailed possum scats were also found during the visit at the base of one of these trees. (DEC, 2009).

Three other species are found within the local area that are federally listed and protected under the Environmental Protection and Biodiversity Conservation Act (1999) - the Chuditch (*Dasyurus geoffroii*, Vulnerable), Forest Red-tailed black cockatoo (*Calyptorhynchus banksii naso*, Vulnerable) and Carnaby's black cockatoo (*Calyptorhynchus latirostris*, Endangered).

Although the habitat under application may be utilised by indigenous fauna species, the vegetation is not considered significant habitat for indigenous fauna. This is due to the large amount of vegetation in secure tenure within the local area (10km radius) in better condition (DEC, 2009) as well as the vegetation consisting of dense regrowth with trees that are too small and does not provide enough hollows to sustain species such as the Brush-tailed phascogale with females requiring 10-15 hollows within their home range for habitat.

- Methodology** **References:**
- DEC (2006)
 - DEC (2009)
- GIS Databases:**
- CALM Managed Lands and Waters - DEC
 - Donnybrook 50cm Orthomosaic - Landgate 2004
 - SAC Biodatasets - Accessed 23/07/2009

(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

Four declared rare flora species have been recorded within the local area (10km radius) on similar vegetation and/or soil types to the applied clearing area. These species include *Banksia squarrosa* subsp. *argillacea* (closest record approx. 2.4km NW), *Verticordia densiflora* var. *pedunculata* (closest record approx. 3.4km W), *Gastrolobium modestum* (closest record approx. 3.9km SW) and *Daviesia elongata* subsp. *elongata* (closest record approx. 9.3km N).

Banksia squarrosa subsp. *argillacea* has been recorded in lateritic gravel pits however, this is thought to be as a result of soil movement containing seed rather than normally occurring at these locations and records show this species tends to favour areas of winter-wet clay over ironstone (Luu & English, 2004 & WA Herbarium, 2009). *Verticordia densiflora* var. *pedunculata* also prefers low lying winter-wet areas and areas containing white-grey sands and black sandy loams with "open heath and shrubland, sometimes in or near open marri, jarrah and *Banksia attenuata* woodland" (Brown et al, 1998). *Gastrolobium modestum* inhabits areas of heavier soils including "shallow red clay-loam or grey sand, ironstone within gullies and edges of flats" and along margins of seasonal wetlands (WA Herbarium). It is therefore concluded that this site is likely to be too dry for these species to occur at this location.

Daviesia elongata subsp. *elongata* is recorded in habitats consisting primarily of *Eucalyptus marginata* woodlands over heath with some sites also having *Corymbia calophylla*, *Persoonia longifolia*, *Banksia* sp., *Stirlingia latifolia*, *Xanthorrhoea* sp., *Hakea* sp. and *Acacia* sp. on a range of different soil types (Brown et al, 1998 & WA Herbarium). Given that the associated vegetation is consistent with the applied clearing area and some records have occurred on lateritic sites or near to ironstone, this species had the potential to occur within the applied clearing area.

Twenty two priority flora species have also been recorded within the local area (10km radius). Five of these species, *Boronia humifusa* (Priority 1), *Hemigenia rigida* (Priority 1), *Logania wendyae* (Priority 1), *Synaphea* sp. *Argyle* (Priority 1) and *Loxocarya magna* (Priority 3) have been recognised as being the most likely to occur within the applied clearing area as they have been recorded on similar soils and vegetation types to the area under application.

Due to the large number of flora of conservation significance recorded within the local area (10km radius) within similar vegetation and soil types, a flora survey was undertaken by Bennett Environmental Consulting Pty Ltd on the 3 December 2009 however, no declared rare or priority flora species were recorded during the survey. It is therefore concluded that the proposal is not likely to be at variance to this principle.

- Methodology** References:
- Bennett Environmental Consulting Pty Ltd (2009)
 - Brown et al. (1998)
 - DEC (2009)
 - Keighery (1994)
 - Luu & English (2004)
 - WA Herbarium - Florabase accessed 29/07/2009
- GIS Databases:
- Matiske Vegetation - CALM
 - SAC Biodatasets - Accessed 23/07/2009
 - Soils, Statewide - DA

(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

Three threatened and four priority ecological communities have been recorded within the local area (10km radius). However, none of these floristic community types are within the same vegetation types as those mapped within the applied clearing area.

It is therefore concluded that the vegetation under application does not comprise a whole or part of, or is necessary for the maintenance of a threatened ecological community and therefore is not likely to be at variance to this principle.

- Methodology** References:
- DEC (2009)
- GIS Databases:
- Heddle Vegetation Complexes - DEP
 - Matiske Vegetation - CALM
 - SAC Biodatasets - Accessed 23/07/2009

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

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

The vegetation under application is located within the Beard Vegetation Association 1182 - medium woodland; *Eucalyptus rudis* and *Melaleuca raphiophylla* of which there is 44.6% of the pre-European extent within the Jarrah Forest IBRA Region remaining (Shepherd, 2009).

The vegetation is also mapped as the Matiske Vegetation Association Rosa (RO) described as "woodland to open forest of *Corymbia calophylla* - *Eucalyptus marginata* subsp. *marginata* - *Xylomelum occidentale* on slopes and tall shrubland of *Taxandria linearifolia* in valley floors in the humid zone" which has 78.8% of its pre-European extent remaining (Matiske & Havel, 1998).

The property lies within the Shire of Capel in the Jarrah Forest IBRA Region which have 34.5% and 55.8% of their pre-European extent remaining respectively (Shepherd, 2009).

Approximately 80% of the local area (10km radius) is vegetated, the majority of which is within state forest, including vegetation directly to the south of the property under application and crown reserve land vested to the Local Government Authority directly to the west of the applied clearing area. It is therefore concluded that the vegetation under application is not considered to be significant as a remnant in an extensively cleared area.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Jarrah Forest	4,506,657	2,514,549	55.8%	67.2%
Shire				
Shire of Capel*	55,945	19,276	34.5%	43.3%
Beard vegetation type*				
1182 (within JF Bioregion)	11,128	4,957	44.6%	67.3%
Mattiske**				
RO - Rosa	16,514	13,021	78.8%	68.3%

*Shepherd (2009)
**Mattiske & Havel (1998)

Methodology References:
- Commonwealth of Australia (2001)
- EPA (2003)
- Mattiske & Havel (1998)
- Shepherd (2009)
GIS Databases:
- Donnybrook 50cm Orthomosaic - Landgate 2004
- Interim Biogeographic Regionalisation of Australia - EA
- Local Government Authorities - DOLA
- Hedde Vegetation Associations - DEP
- Mattiske Vegetation - CALM
- SAC Biodatasets - Accessed 23/07/2009

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

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

The closest mapped wetland to the applied clearing area is a multiple use wetland (palusplain) approximately 5.4km north west. The closest conservation category wetland (floodplain) is approximately 7.9km west of the applied clearing area and there are no EPP Lakes or ANCA wetlands within the local area.

The closest watercourses to the applied clearing area are the Capel River, a major, perennial watercourse, approximately 370m north and Ironstone Gully, a minor, perennial watercourse, approximately 420m to the west.

The vegetation under application is upslope of the local watercourses and the vegetation community observed on site is indicative of an upland vegetation community type being *Corymbia calophylla* (Marri) and *Eucalyptus marginata* (Jarrah) woodlands over mixed shrub and herb species (DEC, 2009).

Given the distance of the vegetation under application from the watercourses and wetlands within the local area and the vegetation type recorded onsite it is concluded that the vegetation is not growing in, or in association with, an environment associated with a watercourse or wetland and therefore is not likely to be at variance to this principle.

Methodology References:
- DEC (2009)
GIS Databases:
- ANCA Wetlands - EA
- EPP Lakes - DEP
- Geomorphic wetlands (Mgmt Categories), Swan Coastal Plain
- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW
- Topographic Contours, Statewide - DOLA

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

Comments Proposal may be at variance to this Principle

The vegetation under application occurs on lateritic or ironstone gravels (DEC, 2009), consistent with the mapped soil type described by Northcote et al (1960-68) as a "dissected plateau at low elevation of gently undulating to low hilly relief and characterized by extensive block laterite and lateritic (ironstone) gravels."

The location of the proposed clearing has a topography ranging from 65 to 90m AHD and a medium relief. The mapped salinity risk across the applied clearing area is low with a groundwater salinity being less than 500mg/L.

The hard gravel soils at this site have characteristically low infiltration rates and therefore the removal of the 4ha of vegetation will lead to increased surface water run-off to adjacent properties, with the potential to cause water erosion. There is also the potential for wind erosion at the site during the drier months. These issues may be minimised through appropriate dust and site water run-off management.

Methodology

References:

- DEC (2009)
- Northcote et al (1960-68)

GIS Databases:

- Salinity Risk LM 25m - DOLA
- Soils, Statewide - DA
- Topographic Contours, Statewide - DOLA

(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 two closest conservation areas within the local area are two DEC managed lands - the Jarrahwood State Forest, approximately 260m south, and the Boyanup State Forest, approximately 1.5km north of the applied clearing area.

Neighbouring Crown Reserve 3801 vested with the Shire of Capel, is classed as a Class 'C' reserve on the Shire's reserve register and managed for conservation purposes by the Capel Land Conservation District Committee (Shire of Capel, 2009 & Submission 2009). A submission received opposes the clearing at this site due to concerns that it will adversely impact upon the adjoining reserve through surface water run-off resulting in waterlogging and sedimentation (Submission, 2009).

The removal of the vegetation at this site is likely to increase surface water run-off onto adjoining properties during high rainfall events which may result in some sedimentation however, the risk of sedimentation effecting neighbouring properties if the site water run-off is managed is considered low.

The removal of this vegetation may also increase edge effects such as weed encroachment into the neighbouring Crown Reserve. Measures implemented during the clearing process to reduce the risk of introduction and spread of dieback and weeds will help to mitigate these potential impacts to surrounding native vegetation.

Due to the potential for sedimentation in areas down slope of this vegetation and the close proximity of the vegetation under application to conservation areas, it is concluded that the proposal may be at variance to this principle without appropriate management.

Methodology

References:

- DEC (2009)
- Keighery (1994)
- Shire of Capel (2009)
- Submission (2009)

GIS Databases:

- Cadastre - Landgate
- CALM Managed Lands and Waters - DEC
- Donnybrook 50cm Orthomosaic - Landgate 2004

(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 applied clearing area lies within the Capel River Catchment within the Busselton Coast Basin. The vegetation under application lies within the Busselton - Capel RiWI Groundwater Area and the Capel River and tributaries RiWI area whereby the use of water resources in this location fall under the management of the Department of Water. The applicant has advised that they will not require water from local water sources for the purposes of dust suppression and they will not be excavating deep enough to interfere with the water table

to warrant dewatering (B & J Catalano, 2009). If it is found that a small amount of dust suppression is required for the access road, permission has been acquired from the land owner to use the onsite dam (B & J Catalano, 2009).

The closest watercourses to the applied clearing area are the Capel River, a major, perennial watercourse, approximately 370m north and Ironstone Gully, a minor, perennial watercourse, approximately 420m to the west. The closest mapped wetland to the applied clearing area is a multiple use palusplain wetland, approximately 5.4km north west.

The groundwater salinity at this site is less than 500mg/L and the mapped salinity risk for the site is considered to be low. The topography at this site ranges from 65 to 90m AHD and the land form slopes from the south west down to the north eastern edge of the applied clearing area (DEC, 2009).

A submission received has raised the concern that the clearing of this vegetation on a property which already has significant clearing will have an adverse impact on the adjoining reserves as a result of water run-off which could result in waterlogging and dirty water entering the ironstone falls area (Submission, 2009).

Given that the applied clearing area is separated from the nearest watercourse Ironstone Gully, by 370m of native vegetation and the fact that the extraction is not likely to interfere with the water table at this location, it is unlikely that the proposal will cause deterioration in the surface or underground water sources within the local area.

Methodology

References:

- B & J Catalano (2009)
- DEC (2009)
- Submission (2009)

GIS Databases:

- Geomorphic wetlands (Mgmt Categories), Swan Coastal Plain
- Hydrographic Catchments - Basins - DoW
- Hydrographic Catchments - Catchments - DoW
- Topographic Contours, Statewide - DOLA

(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 closest watercourses to the applied clearing area are the Capel River, a major, perennial watercourse, approximately 370m north and Ironstone Gully, a minor, perennial watercourse, approximately 420m to the west. The closest mapped wetland to the applied clearing area is a multiple use palusplain wetland, approximately 5.4km north west. The site has a medium relief with a topography ranging from 65 to 90m AHD.

Advice from the Department of Agriculture for a previous application at this property states that clearing at this site could contribute to increased surface water "run-off during high rainfall events which could contribute to increased stream flows but is unlikely to cause extensive flooding due to the size of the catchment, land slopes and soil types" and therefore "the risk of flooding causing land degradation is low" (Department of Agriculture, 2005).

It is therefore concluded that the proposal is unlikely to exacerbate the incidence or intensity of flooding within the local area.

Methodology

References:

- Department of Agriculture (2005)

GIS Databases:

- Geomorphic wetlands (Mgmt Categories), Swan Coastal Plain
- Hydrographic Catchments - Basins - DoW
- Hydrographic Catchments - Catchments - DoW
- Topographic Contours, Statewide - DOLA & ARMY

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

Comments

The property under application is zoned 'Rural' under the Greater Bunbury Region Scheme and Town Planning Scheme.

B & J Catalano Pty Ltd submitted an application to the Shire of Capel in November 2009 for an extractive industry licence (EIL) for the area under application. Council resolved to grant conditional planning approval to the proposed extractive industry on the 25 August 2010 subject to a clearing permit being granted and the receipt of a rehabilitation bond (Shire of Capel, 2010). An EIL is yet to be approved by the Shire.

The acid sulfate soil risk for this location is mapped as no known risk of acid sulfate soils occurring within 3m of the natural surface (or deeper) that could be disturbed by most land development activities. The depth of excavation at this site is dependant upon the amount of available resource but is expected to vary from 1 to 2 metres in depth. There is no known risk of acid sulfate soils being exacerbated as a result of the clearing of native vegetation.

A direct interest submission was received opposing the clearing at this location. The concerns raised in this submission include the impact the clearing will have on the adjoining Gibson Road and Ironstone Gully Falls Reserve which are managed by the Capel Land Conservation District Committee particularly through water run-off causing waterlogging or by dirty water entering the falls area. There is also concerns that the rest of the property has been cleared without any attempt to rehabilitate and revegetate this site and it is proposed that the current application should not be considered until a plan to rehabilitate the previously degraded area is implemented (Submission, 2009). Concerns with regards the impact on the neighbouring Gibson Road and Ironstone Gully Falls Reserve have been highlighted and addressed within principles (g), (h) and (i). The Shire of Capel (2009b) have also raised concerns with regards the unrestored gravel pit and have requested that if more clearing be granted, that "their permit include the requirement for a rehabilitation plan for the site." Revegetation of an area within the property and rehabilitation of the site will be undertaken post extraction in relation to this proposal to account for the temporary land use.

The crushing licence registration for the plant that covered this proposal expired on the 13 April 2010. B and J Catalano Pty Ltd have been in contact with Industry Regulation Branch, South West Region and are aware of their requirements for a works approval and licence prior to commencing works.

Methodology References:

- Shire of Capel (2009b)
 - Shire of Capel (2010)
 - Submission (2009)
- GIS Databases:
- Acid Sulphate Soil Risk - DEC
 - Town Planning Scheme Zones - MFP
 - SAC Biodatasets - Accessed 23/07/2009

4. References

- B & J Catalano (2009) Information on required water usage at Lot 102 on Plan 55996, Capel River for Proposed Extractive Industry, Brunswick Junction, Western Australia. TRIM ref DOC95923.
- Beard, J.S. (1980) A new phytogeographic map of Western Australia. Res. Notes. W.A. Herbarium 3:37-58.
- Bennett Environmental Consulting Pty Ltd (2009) Flora and Vegetation Lot 102 Capel River. Report prepared for MBS Environmental, December 2009. Bennett Environmental Consulting Pty Ltd, Western Australia. TRIM ref DOC115776.
- Brown A., Thomson-Dans C. and Marchant N. (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- DEC (2006) NatureBase - Fauna Species Profile: Brushtailed Phascogale (*Phascogale tapoatafa*). Accessed at <http://www.naturebase.net/content/view/840/1288/>. Accessed 23/07/2009. Department of Environment and Conservation, Western Australia.
- DEC (2009) Site Inspection Report for Clearing Permit Application CPS 3203/1, Lot102 on Plan 55996, Capel River. Site inspection undertaken 30/07/2009. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC92758).
- Department of Agriculture (2005) - Advice for Application for Clearing Permit CPS 698/1 - Wellington Location 2499 - Lot 2499 on Deposited Plan 132192 - Agostino Scaglione, Department of Agriculture, Perth, Western Australia. TRIM ref IN23600.
- EPA (2003) Greater Bunbury Region Scheme. Bulletin 1108. Environmental Protection Authority, Western Australia.
- EPA (2009) Environmental Protection Bulletin No. 8: South West Regional Ecological Linkages, Environmental Protection Authority, Perth Western Australia.
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Luu, R. & English, V. (2004) Interim Recovery Plan No. 177 - Whicher Range Dryandra (*Dryandra squarrosa* subsp. *argillacea*) Interim Recovery Plan 2004-2009, Western Australian Threatened Species and Communities Unit (WATSCU), Department of Conservation and Land Management, Wanneroo, Western Australia.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.
- Molloy et al (2009) South West Regional Ecological Linkages Technical Report. Western Australian Local Government Association (WALGA) and the Department of Environment and Conservation (DEC), West Perth, Western Australia.

- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Shire of Capel (2009) Crown Reserve 3801 Classification Information including Management Plan for the Ironstone Gully and Gibson Road Reserves, Prepared for the Capel Land Conservation District Committee, Shire of Capel, Capel, Western Australia. TRIM ref DOC95920.
- Shire of Capel (2009b) Direct Interest Submission: Application to Clear Native Vegetation Permit Number 3203/1, 17/9/2009. TRIM ref DOC98359.
- Shire of Capel (2010) Correspondence to B and J Catalano Pty Ltd: Application for Extractive Industry Licence - Lot 102 Goodwood Road, Capel River. Shire of Capel, Capel, Western Australia. DEC ref A329271.
- Submission (2009) Direct Interest Submission, 13/08/2009, TRIM ref DOC93345.
- Western Australian Herbarium. FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 29/07/2009).

5. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now DEC)
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)
MFP	Ministry for Planning
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DoW)