



## 1. Application details

### 1.1. Permit application details

Permit application No.: 2800/1

Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: B & J Catalano Pty Ltd

### 1.3. Property details

Property: LOT 2 ON PLAN 15419 (Lot No. 2 LUDLOW MYALUP 6220)

LOT 2 ON PLAN 15419 (Lot No. 2 LUDLOW MYALUP 6220)

Local Government Area: Shire Of Harvey

Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.74		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 Unit 998: Medium woodland; tuart (Shepherd, 2006)	The vegetation under application is for 1.74ha for the purpose of limestone extraction. A site visit (DEC, 2008) confirmed that the vegetation consisted of an open heath. The dominant species include	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The vegetation was considered to be in degraded (Keighery, 1994) condition as determined by aerial mapping and site visit (2008).
Cottesloe Complex Central and South: Mosaic of woodland of E. gomphocephala and open forest of E. gomphocephala - E. marginata - E. calophylla; closed heath on the Limestone outcrops. (Hedde et al., 1980)	Banksia spp., Eucalyptus spp. (mallee), Nuytsia floribunda, Agonis flexuosa and Hakea spp. The mid story consists of Melualeuca spp. and Xanthorrea spp. and the understorey was dominated by weeds.		

## 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 proponent has applied to clear 1.74 ha of vegetation for the purpose of limestone extraction. The vegetation under application is in degraded (Keighery 1994) condition (DEC, 2008a). The local area (10km radius) has been highly cleared with approximately 25% of vegetation remaining.

The applied area is within the Greater Bunbury Regional Scheme (2008) area and is part of a significant as an east west ecological linkage called the Yalgorup, Riverdale road, Yarloop ecological linkage. This linkage joins vegetation associated with Yalgorup National Park (approximately 200m north) and Dwellingup State Forest (to the east). As the landscape is highly cleared, retention of intact vegetation in good condition, that provides linkages to conservation areas, is required to maintain the biodiversity values in the local area. The previous application (CPS2310/1) lodged by the proponent contained vegetation that was of good (Keighery, 1994) condition, this has now been removed from the area in response to a letter dated 29 May 2008 from the Department of Environment and Conservation (DEC TRIM Ref: DOC54402).

There are 9 known priority flora species within the local area (10km radius) of the application area. A site visit (DEC, 2008a) confirmed that the soils were likely to be suitable for 3 priority species, namely Lasiopetalum

membranaceum (P3), Hakea sp. Yalgorup (P4) and Haloragis scoparia (P1). Lasiopetalum membranaceum is a multi stemmed shrub which is known to occur on sand over limestone and Hakea sp. Yalgorup is a shrub which typically occurs on brown sand and limestone ridges, therefore both of these flora are likely to occur within the application area. Haloragis scoparia is a perennial herb and very little information is known about its typical habitat. Ground truthing at the time the population was recorded indicated that the flora was occurring on clay soils in vegetation dominated by Eucalyptus rudis. As little information is known about the niches in which this flora can occur it is possible that this species occurs within the area under application.

A flora survey undertaken in October 2007 (MSB, 2007) found no priority flora within the area under application.

There are 5 records of threatened fauna within a 10km radius of the applied area, including the Brush Tailed Phascogale (VU) and the Western Ringtail Possum (VU). There are a number of mature Tuart trees within the application area which may be providing habitat for these two species.

The area under application lies partially within the buffer zone of a Threatened Ecological Community (SCP18; Ellis02 - Shrublands on calcareous silts of the Swan Coastal Plain). The vegetation under application is comprised of dominant species and soil types that are not consistent with the ecological values of the TEC.

The applied area is approximately 360m from Preston Lake and 200m South of the Yalgorup National Park. The proponent has reduced the application area which was refused under CPS2310, to ensure that a buffer of 200m from Yalgorup National Park is preserved.

The clearing as proposed may be at variance to this principle as although most of the vegetation within the application area is in a degraded (Keighery, 1994) condition it may provide ecological linkages in a highly cleared landscape. In order to maintain this linkage in the long term, revegetation conditions will be placed on the permit.

**Methodology** Keighery (1994)  
MSB (2007)  
Herbarium (2008b, c and d)  
DEC (2008a)  
Greater Bunbury Regional Scheme (2008)  
DEC TRIM Ref:DOC54402  
GIS Database:  
- Declared Rare and Priority Flora List - CALM 13/08/03  
- Heddle Vegetation Complexes DEP 22/06/95  
- SAC Bio Datasets (090408), Fauna  
- SAC Bio Datasets (200508), TEC Database  
- CALM Managed Lands and Waters CALM 01/08/04  
- Pre European Vegetation - DA 01/01

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

**Comments Proposal may be at variance to this Principle**

The proponent has applied to clear 1.74 ha of vegetation for the purpose of limestone extraction. The vegetation under application is in degraded (Keighery 1994) condition (DEC, 2008a).

The applied area is within the Greater Bunbury Region Scheme area and is identified as being in close proximity to the indicated Yalgorup, Riverdale road, Yarloop (Riverdale road transect) ecological linkage line. (GBRS, 2008) This ecological linkage is significant as it is one of three linkages, within the Greater Bunbury area, which persists from the coast to the plateau. (EPA, 2003).

There are 5 records of declared threatened fauna within a 10km radius of the applied area. DEC (2008a) indicated that the application area may contain habitat capable of supporting populations of Western Ringtail Possums (VU) in addition to a variety of other animal life.

The Western Ringtail Possum (VU) mostly inhabits coastal Peppermint-Tuart associations from Bunbury to Albany. They are arboreal and have a small, stable home range and mainly feed on Peppermint leaves, Myrtaceous sp. and Jarrah and Marri trees (Burbridge, 1998).

Additional information was submitted by the applicant (Western Ringtail Possum survey, 2008) in response to the issue of the area under application possibly being habitat for Western Ringtail possum, however surveys were only completed of Lot 4 not Lot 2 (of which the application area is a part). A site visit (DEC, 2008a) identified a small number of peppermint trees and mallee trees in the southern portion of the application area which may provide habitat for the Western Ringtail possum, however the area is not considered to be significant habitat due to its limited extent and degraded (Keighery, 1994) condition.

The clearing as proposed may be at variance to this principle as it is a part of a significant linkage as identified in the Greater Bunbury Regional Scheme and is likely to support habitats for a number of other Western

Australia indigenous fauna. A fauna management condition will be placed on the permit.

**Methodology** Keighery (1994)  
Burbridge (1998)  
EPA (2003)  
DEC (2008a)  
Greater Bunbury Regional Scheme (2008)  
WRP Survey (2008)

GIS Database:  
- Pre European Vegetation - DA 01/01  
- Heddle Vegetation Complexes DEP 22/06/95  
- SAC Bio Datasets (090408), Fauna

**(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 is one known record of rare flora (*Diuris micrantha*) within the local area (10km radius). *Diuris micrantha*, is a tuberous, perennial herb which is known to occur on brown loamy clay in winter wet swamps and shallow waters (Herbarium, 2008a). According to GIS mapping soils state wide this species occurs on the same soils as the application area, however, a site visit (DEC, 2008a) confirmed that the soils are predominately sandy and it is therefore, unlikely that this species would occur within the application area.

A flora survey undertaken in October 2007 (MBS, 2007) found no rare flora within the area under application.

The clearing as proposed is not likely to be at variance to this principle as no declared rare flora are likely to occur within the application area.

**Methodology** Herbarium (2008a)  
DEC (2008a)  
MBS (2007)  
GIS Database:  
- Declared Rare and Priority Flora List - CALM 13/08/03  
- Heddle Vegetation Complexes DEP 22/06/95  
- Pre European Vegetation - DA 01/01  
- Soils, Statewide DA 11/99

**(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**

The area under application lies partially within the buffer zone of a Threatened Ecological Community (SCP18; Ellis02 - Shrublands on calcareous silts of the Swan Coastal Plain). The vegetation under application is comprised of dominant species and soil types that are not consistent with the ecological values of the TEC.

Given the distance, different soils and the nature of limestone extraction (shallow extraction staying above the superficial water table) it is not expected that the clearing as proposed will impact on the TECs ecological values (DEC 2008b).

The proposal is therefore not likely to be at variance to this Principle.

**Methodology** DEC (2008b)  
  
GIS Database:  
- SAC Bio Datasets (200508), TEC Database  
- Heddle Vegetation Complexes DEP 22/06/95  
- Pre European Vegetation - DA 01/01  
- Soils, Statewide DA 11/99

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

**Comments Proposal may be at variance to this Principle**

The proponent has applied to clear 1.74 ha of vegetation for the purpose of limestone extraction. The vegetation under application is in degraded (Keighery 1994) condition (DEC, 2008a).

The vegetation under application is mapped as Beard Vegetation Association 998 (Medium woodland, Tuart) and Heddle Vegetation Complex Cottesloe of which there is 41.61% (Shepherd, 2007) and 45% (Heddle, 1980) of the

pre-European vegetation extent remaining (respectively) however the local area (10km radius) is highly cleared with approximately 25% of vegetation remaining, of which approximately 90% is within CALM Managed Lands.

The applied area is within the Greater Bunbury Regional Scheme (2008) area and is part of a significant as an east west ecological linkage called the Yalgorup, Riverdale road, Yarloop ecological linkage. This linkage joins vegetation associated with Yalgorup Nation Park (approximately 200m north) and Dwellingup State Forest (to the east). As the landscape is highly cleared, retention of intact vegetation in good condition, that provides linkages to conservation areas, is required to maintain the biodiversity values in the local area. The previous application (CPS2310/1) lodged by the proponent contain vegetation that was of good (Keighery, 1994) condition, this of which has now been removed for the areain response to a letter dated 29 May 2008 from the Department of Environment and Conservation (DEC TRIM Ref:DOC54402).

The clearing as proposed may be at variance to this principle as the vegetation under application, although degraded, is significant as a remnant of vegetation in an extensively cleared landscape which is supporting areas of high ecological value (National park and a recognised ecological linkage). Revegetation conditions will be placed on the permit to maintain this linkage in the long term.

**Methodology** Keighery (1994)  
Shepherd (2007)  
Heddle et al (1980)  
DEC (2008a)  
Greater Bunbury Regional Scheme (2008)

GIS Database:

- Heddle Vegetation Complexes DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI 8/07/04

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

The area under application is 300m east and just outside the buffer zone for Lake Preston (wetland of ANCA and Ramsar significance), however, as much of the buffer has been cleared the capacity of the buffer to protect Lake Preston against the impacts of clearing of the applied area is severely reduced. In parts, the vegetated buffer is 65m. DoW (2006) lists the purpose of a buffer as filtering water particularly on down gradient erosive soils (such as those of the applied area). The buffer between the applied area and Lake Preston is therefore not providing these environmental benefits and thus clearing of the applied area may degrade the condition of Lake Preston. Revegetation conditions have been placed on the proponents permit 1116/1, which is located adjacent and closer to Lake Preston. Revegetation conditions will be placed on the clearing permit.

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

**Methodology** Keighery (1994)  
DoW (2005)  
DoW (2006)

GIS Database:

- ANCA wetlands Environment Australia 26.3.99
- CALM Managed Lands and Waters CALM 01.06.05
- EPP Lakes Policy Area DEP 14.05.97
- EPP, Wetlands 2004 (DRAFT) EPA 21.7.04
- Environmentally Sensitive Areas (ESA) DEC 30.05.05
- Geomorphic Wetlands (Mgt Categories) Swan Coastal Plain DEC 11.04.07

**(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**

Soils under application are mapped as B24 and described as undulating dune landscape underlain by aeolianite which is frequently exposed; small swales of estuarine deposits are included: chief soils are siliceous sands with smaller areas of brown sands and leached sands in the wetter sites. (Northcote et al., 1968)

Clearing of the vegetation under application may add incrementally to salinity in a landscape that is highly cleared. This landscape has a high rainfall (~800mm per annum). The proposed clearing may lead to incremental saline expression which is likely to drain into nearby lake due to the topography of the site. This lake is an estuary and any incremental addition to salinity as a result of the proposed clearing is unlikely to significantly affect the lake.

The groundwater salinity level is currently mapped between 500 to 1000 mg/L, which is classified as marginal.

Removal of native vegetation from the applied area is likely to result in land degradation in the form of on site wind erosion, as the application area is observed as having leached white sands below the topsoil (DEC 2008a), from top soil stripping and stockpiles.

The clearing as proposed may be at variance to this principle as the clearing may result in on site wind erosion, off site water erosion and the method of clearing may result in an incremental deterioration in groundwater quality. To mitigate this wind and revegetation conditions will be placed on the permit.

**Methodology** Northcote et al. (1968)  
DEC (2008a)

GIS Database: - Acid Sulfate Soil Risk Map, Swan coastal Plain - DEC 07/08/06 - Annual Evaporation Contours (Isopleths - Hydrographic catchments, subcatchments - DoW 01/06/07 - Hydrography, linear - DOW 13/7/06 - Salinity Risk LM 25m - DOLA 00 - Topographic contours statewide - DOLA and ARMY 12/09/02 - Soils, Statewide DA 11/99

**(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 applied area is within the Greater Bunbury Regional Scheme (2008) area and is part of a significant as an east west ecological linkage called the Yalgorup, Riverdale road, Yarloop ecological linkage. This linkage joins vegetation associated with Yalgorup National Park (approximately 200m north) and Dwellingup State Forest (to the east). As the landscape of the local area (10km Radius) is highly cleared (approximately 75%), retention of intact vegetation in good condition, that provides linkages to conservation areas, is required to maintain the biodiversity values in the local area. The previous application (CPS2310/1) lodged by the proponent contain vegetation that was of good (Keighery, 1994) condition, this of which has now been removed from the area in response to a letter dated 29 May 2008 from the Department of Environment and Conservation (DEC TRIM Ref:DOC54402). There is now a buffer of approximately 200m between the application area and Yalgorup National Park.

A site visit (MBS, 2007) identified 2 declared weed species (under the Agriculture and Related Resources Protection Act, 1976) within the application area, namely Cotton Bush and Apple of Sodom. Clearing of the area under application may cause spreading of the Cotton Bush into the Yalgorup National Park due to the wind disposal mechanism of the seeds.

Given the above the application may be at variance to this principle. Weed and dieback conditions will be placed on the permit to protect nearby conservation areas and surrounding remnants.

**Methodology** MBS (2007)  
Keighery (1994)  
DEC TRIM Ref: DOC54402  
Greater Bunbury Regional Scheme (2008)

GIS Database:  
- Heddle Vegetation Complexes DEP 22/06/95  
- Pre European Vegetation - DA 01/01  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00  
- CALM Managed Lands and Waters CALM 01/08/04

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

This landscape has a high rainfall (~800mm per annum). The proposed clearing may lead to incremental saline expression which is likely to drain into nearby lake due to the topography of the site. This lake is an estuary and any incremental addition to salinity as a result of the proposed clearing will not affect the lake.

DoW (2005) lists the purpose of a buffer as filtering water particularly on down gradient erosive soils (such as those of the applied area), as the buffer between the applied area and Lake Preston is not fully vegetated and therefore, it is not providing this environmental benefit and thus removal of vegetation from the applied area may increase land degradation in the form of off site water erosion (occurring on the banks of Lake Preston).

DEC South West Region guidance statement on the impacts of extractive industry in the Shire of Harvey which advises that the impacts of sand and limestone extraction on groundwater quality (pollution and salinity) is low (DEC, 2008c).

The vegetated buffer between the applied area and lake Preston (a wetland of ANCA and Ramsar significance) is diminished in parts, exposing the lake to the potential incremental impacts of eutrophication and turbidity.

The clearing as proposed is may be at variance to this Principle it may decrease the quality of surface water flowing into Lake Preston. If granted, revegetation conditions will be placed on the permit.

**Methodology**   References:  
DoW (2005)  
DEC (2007)

GIS Database:  
- Hydrographic catchments, catchments - DoW 01/06/07  
- Hydrographic catchments, subcatchments - DoW 01/06/07  
- Hydrography, linear - DOW 13/7/06  
- Salinity Risk LM 25m - DOLA 00  
- Average Annual Rainfall Isohyets - WRC 29/09/98  
- ANCA wetlands - Environment Australia 26/3/99  
- Ramsar wetlands - DEC 03  
- Topographic contours statewide - DOLA and ARMY 12/09/02

**(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**

A site visit (DEC, 2008a) observed the soils within the applied area as brown sands over white leached sands. These soils have high porosity and clearing of the vegetation on this soil type is unlikely to increase the intensity or incidence of flooding.

The clearing as proposed is not at variance to this principle as the soils in the application area are highly porous.

**Methodology**   References:  
DEC (2008a)

GIS Database:  
- Hydrographic catchments, catchments - DoW 01/06/07  
- Hydrographic catchments, subcatchments - DoW 01/06/07  
- Hydrography, linear - DOW 13/7/06  
- Salinity Risk LM 25m - DOLA 00  
- Topographic contours statewide - DOLA and ARMY 12/09/02

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

**Comments**

The proposed clearing is within the South West Coastal groundwater area gazetted for water management under the Rights in Water and Irrigation Act 1914 (RIWI) by the Department of Water (DoW). Any impacts on the groundwater that may result from the extraction are considered under the Extractive Industry Development approval.

Extractive Industry Development approval was recieved from the Shire of Harvey with conditions (DEC TRIM Ref: DOC65522).

**Methodology**   GIS Database  
- Cadastre - Landgate Dec 07  
- Native Title Claims - LA 2/5/07  
- RIWI Act, Groundwater Areas - DoW 13/07/06  
- RIWI Act, Irrigation Districts - DoW 13/07/06  
- Town Planning Scheme Zones - MFP 31/08/98

**4. Assessor's comments**

**Comment**

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing may be at variance to Principle (a), (b), (e), (f), (g), (h), (i) and is not likely to be at variance to the remaining clearing Principles.

**5. References**

Burbridge, A. (1997-1998). Endangered: Western Ringtail Possum. LANDSCOPE 13(2): 49. viewed electronically online in

Western Ringtail Possum Fauna Species Profile from  
[www.naturebase.net/component?option=com\\_docman/task,cat\\_view/gid,372/dir,ASC/order,name/Itemid,1288/limit,5/limitstart,15/](http://www.naturebase.net/component?option=com_docman/task,cat_view/gid,372/dir,ASC/order,name/Itemid,1288/limit,5/limitstart,15/) accessed on 22/05/2008

- DEC (2008a) Site Inspection Report for Lot 2 Ludlow Road prepared by Department of Environment and Conservation. Unpublished. Trim Ref DOC54407
- DEC (2008b) Advice to assessing officer from DEC South West Region, Impacts of clearing on Threatened Ecological Community SCP18, Ellis02. Trim Ref DOC57696
- DEC (2008c) Advice from Department of Water to Assessing Officer, Department of Environment and Conservation. Extractive Industries within the Coastal Strip of the Shire of Harvey (Limestone and Sand) Trim Ref DOC53989
- DoW (2006) Water Quality Protection Note 6; Vegetation buffers to sensitive water resources, Department of Environment. June 2005 from [www.environment.wa.gov.au](http://www.environment.wa.gov.au)
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- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
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- Western Australian Herbarium (2008b). Flora Species Profile; Hakea sp. Yalgorup FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 22/05/2008).
- Western Australian Herbarium (2008c). Flora Species Profile; ; Lasiopetalum membranaceum FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 22/05/2008).
- Western Australian Herbarium (2008d). Flora Species Profile; Haloragis scoparia FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 22/05/2008).
- Western Ringtail Possum Habitat Assessment (2008) prepared by G. Harewood on behalf of MBS Environmental, Trim Ref DOC 56809

## 6. 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
DolR	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)

