



1. Application details

1.1. Permit application details

Permit application No.: 1511/1
 Permit type: Area Permit

1.2. Proponent details

Proponent's name: B & J Catalano Pty Ltd

1.3. Property details

Property: LOT 125 ON DIAGRAM 59932 (Lot No. 125 OLD COAST PARKFIELD 6233)
 Local Government Area: Shire Of Harvey
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4.61		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: Unit 998 - Medium woodland; tuart	The vegetation consists of 4.61ha of native vegetation including <i>Agonis flexuosa</i> (Peppermint), <i>Eucalyptus gomphocephala</i> (Tuart), <i>Corymbia calophylla</i> (Marri), <i>Banksia</i> sp (including <i>Banksia grandis</i>) and young <i>Xanthorrhoea preissii</i> (grass tree). There is good regrowth within the northern portion of the proposed clearing area and a substantial leaf litter layer throughout the site. The vegetation proposed to be cleared ranges from degraded condition within close proximity to the existing sand extraction pit near the southern end to good condition towards the northern portion of the proposed clearing area (Keighery, 1994).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation condition established through site visit conducted by DEC officers on the 16th February 2007 (DOC16694) and aerial photography (Bunbury 50cm Orthomosaic - DLI 04).
Heddl: Yongarillup Complex - Woodland to tall woodland and open forest. Tuart woodland with <i>Agonis flexuosa</i> (Peppermint) in second storey.		Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	

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 proposed clearing area falls within the Swan Coastal Plain Bioregion in the Shire of Harvey which has 38.1% remaining in intensive land use zone ('depleted') and 60.1% remaining ('least concern') respectively (Department of Natural Resources and Environment, 2002, Shepherd et al, 2001 & Shepherd, 2006).

Based on the DEC site visit of the vegetation in the vicinity of the applied area and from aerial photography, it is

apparent that the vegetation condition ranges from degraded close to the existing sand extraction pit and the southern end of the applied area to good condition towards the northern end (Keighery, 1994 & DEC, 2007). The area has been identified within the Atlas of Tuart Woodlands on the Swan Coastal Plain in Western Australia (Tuart Response Group, 2004) and although the proposed clearing area is mostly in a degraded condition, the Tuart woodlands have important biodiversity value. The Shire of Harvey has also advised the Department previously that areas of tuart occurrence identified within the Tuart Atlas should be conserved (Shire of Harvey, 2006).

The proposed clearing area has also been identified as potential habitat for indigenous fauna protected under the EPBC Act particularly Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) and the Western Ringtail Possum (*Pseudocheirus occidentalis*) (BCS Advice, 2007 & DEC, 2007). A number of rare and priority flora species are known to occur within the local area of the proposed clearing on similar soil types and vegetation complexes and therefore probable that they could also occur within the proposed clearing area.

The vegetation complex has been recognised as a potential representative of the Priority 3 community (Type 25) Southern Swan Coastal Plain Eucalyptus gomphocephala - *Agonis flexuosa* woodlands. Due to the potential for this community to be of conservation value it is recommended that a vegetation survey be undertaken using floristic analysis and recording condition to confirm the presence of any priority ecological community before a final determination can be made regarding this principle.

The proposal therefore maybe at variance to this principle.

Methodology BCS Advice (2007)
DEC (2007)
Department of Natural Resources and Environment (2002)
Keighery (1994)
Shepherd (2006)
Shepherd et al (2001)
Shire of Harvey (2006)
Tuart Response Group (2004)
GIS Databases:
- Declared Rare & Priority Flora List - CALM 01/07/05
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI

(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

Due to the presence of Tuarts (*Eucalyptus gomphocephala*), *Banksia* species and Peppermint (*Agonis flexuosa*) trees within the proposed clearing area (DEC, 2007), the area may provide habitat for Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*), Baudin's White Tailed Black Cockatoo (*Calyptorhynchus baudinii*) and Western-Ringtail Possums (*Pseudocheirus occidentalis*).

Although BCS advice (2007) states that it is unlikely that the Western-Ringtail Possum would be found in this area as it is too dry for their existence, it is preferable that a fauna survey confirm that the proposed clearing area is not being used by this species. BCS advice also stated that "a new established population (of Carnaby's Black-Cockatoo) has been located in the local area" and therefore Cockatoos could be using the application area for nesting.

A fauna survey would need to be undertaken (no later than September to account for the Cockatoo breeding season) to quantify fauna activity and inhabitance, particularly of the Carnaby's Black Cockatoo, Baudin's White Tailed Black Cockatoo and the Western Ringtail Possum.

It is therefore concluded that this proposal is at variance to this Principle.

Methodology BCS advice (2007)
DEC (2007)

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposal may be at variance to this Principle

BCS advice confirms that there are "12 records of 5 Declared Rare taxa and 27 records of 10 Priority flora species occurring in the local area."

The closest known population of rare flora is *Drakaea micrantha*, approximately 3.4km north-east of the proposed clearing area. *Caladenia huegellii*, a declared rare species, and *Caladenia speciosa*, a Priority 4 species, have also both been recorded within the local area (10km radius) of the proposed clearing within a similar soil type and the same vegetation complexes (Yoongarillup complex and Beard Vegetation Association

998) as the proposed clearing area.

Despite the fact that the proposed clearing area has had a history of heavy grazing and much of the proposed clearing area has very little understorey remaining (DEC, 2007), "based on the soil description and the preferred habitat of the DRF" (BCS Advice, 2007) species and that there is substantial regrowth in the north-eastern area of the site, it is still possible that the area may contain some of these flora species.

Therefore, an appropriately timed (September - October) flora survey is recommended to determine the presence or absence of flora species of conservation significance .

It is therefore concluded that the proposal may be at variance to this Principle

Methodology BCS Advice (2007)
DEC (2007)
GIS Databases:
- Declared Rare & Priority Flora List - CALM 01/07/05
- Heddle Vegetation Complexes - DEP 21/06/95
- Pre-European Vegetation DA 01/01

(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 Threatened Ecological Community, Muchea Limestone, lies approximately 8km north east of the proposed clearing area (BCS Advice, 2007). This threatened ecological community exists on a different soil type and within a different vegetation complex to the proposed clearing area and therefore it is not expected that this proposal will impact upon this threatened ecological community.

There is no evidence to indicate that the proposed clearing is within a threatened ecological community and due to the vegetation complex being different it is unlikely that the proposed clearing includes or is necessary for the maintenance of the nearest occurrence of threatened ecological community 'Muchea Limestone'.

Although it is unlikely that the proposed clearing area comprises the whole or part of, or is necessary for the maintenance of a threatened ecological community, it is recommended that a vegetation survey be completed to determine the presence and condition of any potential priority communities as referred to in Principle a.

It is therefore concluded that the proposal is not likely to be at variance to this Principle.

Methodology BCS Advice (2007)
GIS Databases:
- Threatened Ecological Communities - CALM 12/4/05
- Heddle Vegetation Complexes - DEP 21/06/95
- 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 is not likely to be at variance to this Principle

The proposed clearing area is part of the Swan Coastal Plain biogeographic region within the Shire of Harvey which have 38.1% ('depleted') and 60.1% ('least concern') of their pre-European vegetation extent remaining respectively (Department of Natural Resources and Environment, 2002, Shepherd et al, 2001 & Shepherd, 2006).

The vegetation is a component of the Beard vegetation classification 998: Medium woodland; Tuart, which has 41.5% remaining and is therefore, of a 'depleted' status for biodiversity conservation. It is also within the Heddle vegetation complex Yoongarillup, which is also of a 'depleted' status with 45% (Department of Natural Resources and Environment, 2002, Heddle et al 1980 & Shepherd, 2006) remaining with the characteristic feature of these tuart woodlands being the large numbers of Peppermint (*Agonis flexuosa*) trees in the second storey which were described in the DEC site visit report.

On the basis that the pre-European extent of the Beard Vegetation Association and the Heddle Vegetation complex, within which the proposed clearing area is a part, meets the "National Objectives Targets for Biodiversity Conservation 2001-2005" (Commonwealth of Australia, 2001), being 30% of that present pre-1750 and the fact that the proposed clearing area is a relatively small portion of vegetation adjacent to areas of vegetation reserved for conservation purposes, this proposal is not likely to be at variance to this principle.

Methodology Commonwealth of Australia (2001)
DEC (2007)
Department of Natural Resources (2002)
Heddle et al (1980)

Shepherd (2006)
Shepherd et al (2001)
GIS Databases:
- Bunbury 50cm Orthomosaic - DLI04
- Pre-European Vegetation DA 01/01
- Local Government Authorities - DLI
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Hedde Vegetation Complexes - DEP21/06/95

(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 vegetation that is proposed to be cleared is not growing in, or in association with, an environment associated with a watercourse or wetland.

There are a number of EPP Lakes and wetlands within the local area with the closest being a chain of Conservation Category Wetlands (CCW) and EPP Lakes to the east of the proposed clearing area, approximately 640m from the applied area within the neighbouring DEC managed land. Due to the relatively large vegetated area, between the proposed clearing area and the chain of wetlands, being conserved within a conservation covenant and DEC managed land, it is unlikely that the proposed clearing will impact upon the EPP lakes and wetlands.

The nearest watercourse is the Wellesley River which is approximately 5.9km south east of the proposed clearing area. There is a large amount of vegetation reserved within the neighbouring DEC managed lands which lies between the proposed clearing area and the watercourse therefore, it is unlikely that the proposed clearing will have a deleterious effect on this watercourse.

Due to the distances and the fact that the areas between the wetlands and watercourses and the proposed clearing area are well vegetated, it is concluded that the proposal is not likely to be at variance to this Principle.

Methodology GIS Databases:
- Hydrography, linear - DoE 1/2/04
- Hydrography, linear (hierarchy) - DoW
- EPP, Lakes - DEP 1/12/92
- Geomorphic wetlands (Mgmt categories), Swan Coastal Plain - DEC
- Bunbury 50cm Orthomosaic - DLI04

(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 proposed clearing area lies within a moderate to low risk acid sulphate soil area. The groundwater salinity is 5000-1000mg/L in this area and the land degradation assessment report from the Commissioner of Soil and Land Conservation states that there is "No evidence any salinity occurring on the property or offsite" and "The risk of salinity causing land degradation is low" (DAFWA, 2007).

The proposed clearing area is not within a Country Areas Water Supply (Part 2) clearing control catchment.

Advice from the Commissioner of Soil and Land Conservation Commissioner from the Department of Agriculture and Food was "The proposed clearing of 7.5 hectares (initial applied area, since reduced to 4.61ha) of land within Lot 125 is unlikely to cause appreciable land degradation. Progressive rehabilitation of mined areas by direct return of top soil after landscaping of site is recommended. Therefore, this clearing is unlikely to be at variance with principle (g)" (DAFWA, 2007).

It is therefore recommended that in the event that a clearing permit is granted for this proposal that it include a condition that topsoil be stockpiled and returned to the site and that the area be revegetated with local endemic species at the completion of each sand extraction stage as per the extractive industry licence proposal.

Methodology DAFWA (2007)
GIS Databases:
- Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC
- Salinity Risk LM 25M - DOLA
- Groundwater Salinity, Statewide 22/02/00
- CAWSA Part IIA Clearing Control Catchments - DoW

(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

Four WRC Estates were identified within the local area, with the closest being 7.7km south east of the applied area. Four areas listed on the Register of National Estate occur within the local area; Yalgorup National Park, 7.8km north of the proposed clearing area, Cathedral Avenue and Wetlands, 4.4 km south of the applied area and the other two are historic buildings which would not be impacted by the proposed clearing. Given the distance from the natural and WRC estates and the separation of the proposal from the national estates by Old Coast Road and existing cleared land, it is unlikely that the clearing of native vegetation under this proposal will impact upon the environmental values of these areas.

DEC managed lands (Ex Dir Freehold) lie directly adjacent to the eastern and southern boundaries of Lot 125 Treasure Road and a System 6 Conservation area (C63) lies approximately 0.8km east of the proposed clearing area on the eastern neighbouring properties.

The proposed clearing area lies adjacent to an area of 22.8 hectares of vegetation under a conservation covenant which was implemented as per a condition imposed by the Shire of Harvey for the previous extractive industry licence for the existing sand pit (Soil and Land Conservation, 2001 & Shire of Harvey, 2006). The proposed clearing area therefore, provides protection to the conservation area. BCS advice states that "the proposed clearing is likely to impact on the existing buffering and habitat connectivity that exists with the local remnant vegetative areas."

Due to the close proximity of the proposal to the DEC managed lands, the System 6 conservation area and the vegetation under conservation covenant, the applied area will currently be providing some protection to these conservation areas by preventing edge effects and as a component of vegetation providing habitat connectivity between conservation areas.

It is therefore concluded that this proposal maybe at variance to this Principle.

Methodology BCS Advice (2007)
Shire of Harvey (2006)
Soil and Land Conservation (2001)
GIS Databases:
- CALM Managed Lands & Waters - CALM 1/07/05
- Register of National Estate - EA 28/01/03
- System 6 Conservation Reserves - DEP 06/95
- WRC Estate - DoW

(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 proposed clearing area is part of the Leschenault Estuary_Lower Collie hydrographic catchment area within the South West Coastal groundwater area gazetted for management under the Rights in Water and Irrigation Act 1914.

The area has a mean annual rainfall of 900mm and an annual evaporation rate of 1400mm. The proposed clearing area has a low salinity risk and DAFWA (2007) identified that there is "no evidence of any salinity occurring on the property or offsite." The groundwater salinity ranges from 500-1000mg/L.

The closest watercourse is the Wellesley River which is approximately 5.9km south east of the proposed clearing area however, a chain of wetlands occurs on the neighbouring DEC managed lands to the east of this property. DAFWA advice states "The risk of eutrophication will not increase with the clearing of native vegetation for sand extraction and its subsequent rehabilitation."

"Drainage from the property flows generally to the west" (DAFWA, 2007) which is away from the closest watercourse and the chain of wetlands and EPP Lakes. As the proposed clearing area is for 4.61ha with approximately half of the area in degraded condition the clearing is unlikely to cause further deterioration of surface water within the local area.

In order to mitigate any potential impacts on surface or groundwater, should a clearing permit be granted, it should include a condition that the cleared area be rehabilitated using local endemic species and resulting in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types.

It is therefore concluded that the proposal is not likely to be at variance to this principle.

Methodology DAFWA (2007)
GIS Databases:
- Hydrographic Catchments - Catchments - DoW

- RIWI Act, Groundwater Areas - DoW
- Salinity Risk LM 25M - DOLA 00
- Groundwater salinity, Statewide - 22/02/00
- Rainfall, mean annual - BOM 30/09/01
- Evaporation Isopleths - BOM 09/98
- EPP, Lakes - DEP 1/12/92
- Geomorphic Wetlands (Mgmt Categories), Swan Coastal Plain - DEC
- Hydrography, linear - DOE 1/2/04
- Hydrography, linear (hierarchy) - DoW

(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

Advice from Soil and Land Conservation states that the "Clearing of further vegetation is unlikely to significantly increase surface run-off, which would contribute to stream flows. The risk of flooding causing land degradation is low" (DAFWA, 2007).

Should a permit be granted for this proposal, it should include a condition that after the completion of extraction works at the site, the applicant must rehabilitate the site with local endemic flora species naturally occurring within a 10km radius. The revegetation would mitigate any potential increase in the peak flood height and/or duration of flooding at this site.

It is therefore concluded that the proposal is not likely to be at variance to this Principle.

Methodology DAFWA (2007)

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

Comments

Lot 125 Treasure Road, Parkfield is currently zoned "General Farming" under the Town Planning Scheme. However, "with the expansion of the Kemerton Industrial Area is likely to become zoned "Kemerton Buffer" (Shire of Harvey, 2006a)

The Shire of Harvey (2006b) has advised the Department "it (the Council) does not support clearing for future extractive industry stages at Lot 125 Treasure Road, Parkfield at this time as the application for an extractive industry or the subject lot has not yet been approved."

"1. That Council does not grant an extractive industry licence for Lot 125 Treasure Road, Parkfield in its current form due as;

- (i) The proposal involves the clearing of native vegetation identified within the Tuart Conservation Strategy.
- (ii) The proposal involves clearing and sand removal within an area identified having significance for visual protection of the Kemerton Industrial Area.
- (iii) No approval for clearing has been issued at this time from the Department of Environment and Conservation.

2. That Council advises the applicant that it is prepared to consider a revised application which specifically addresses the above concerns."

Methodology Shire of Harvey (2006a)
 Shire of Harvey (2006b)
 GIS Databases:
 - Town Planning Scheme Zones - MFP 8/98

4. Assessor's comments

Purpose	Method Applied	Comment
Extractive Industry	Mechanical Removal	area (ha)/ trees 4.61

5. References

- AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.
- Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM ref xxxxx
- DAFWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of

Agriculture and Food Western Australia. DoE TRIM ref XXXXX.

- DEC (2007) Site visit report, Department of Environment and Conservation, Western Australia. TRIM ref DOC 16694.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Heddle, 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd, D.P. (2006). 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Shire of Harvey (2006a) Development Services Committee Agenda - Manager of Planning Services Report, Harvey, Western Australia. TRIM ref DOC23151.
- Shire of Harvey (2006b) Council Resolution of Application to Clear, Harvey, Western Australia. TRIM ref DOC10988.
- Soil and Land Conservation (2001) Conservation Covenant, Western Australia. TRIM ref DOC6028.
- Tuart Response Group (2004) An Atlas of Tuart Woodlands on the Swan Coastal Plain in Western Australia, Perth, Western Australia.

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
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)

