



## 1. Application details

### 1.1. Permit application details

Permit application No.: 701/1

Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Colin Michael Piacentini

### 1.3. Property details

Property: LOT 314 ON PLAN 3097 ( DALYELLUP 6230)  
LOT 313 ON PLAN 3097 ( DALYELLUP 6230)

Local Government Area: Shire Of Capel

Colloquial name: Harewoods Road - Lots 313 - 314 on Plan 3097

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
25.33		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
<p>The vegetation under application is made up of two Heddl Complexes.</p> <p>1. Vasse Complex - is dominated by a mixture of closed-scrub of <i>Melaleuca</i> spp., fringing woodland of <i>E. rudis</i> - <i>Melaleuca</i> spp., and open-forest of tuart-jarra-marri.</p> <p>2. Karrakatta Complex - Central and South - consisting predominantly of an open-forest of tuart-jarra-marri. Other common species include <i>Banksia attenuata</i>, <i>Banksia grandis</i> and to a lesser extent <i>Agonis flexuosa</i>.</p>	<p>The vegetation condition is considered to vary between degraded and completely degraded (Keighery 1994), with its structure severely impacted by selective thinning and historic grazing. Mature trees exist over a weed dominated understorey. Species observed include <i>Agonis flexuosa</i>, <i>Corymbia calophylla</i>, <i>Banksia attenuata</i>, <i>Eucalyptus marginata</i>, <i>Hibbertia cuneiformis</i>, <i>Hardenbergia comptoniana</i>, <i>Lepidosperma</i> spp.</p>	<p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)</p>	<p>Observed during site visit undertaken 07/06/05.</p>

## 3. Assessment of application against clearing principles

### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

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

The proposed clearing area is not within an Environmentally Sensitive Area (ESA) however the closest ESA is located on the western side of the Minninup Road Reserve, which runs through Lots 313 and 314. This ESA is attributed to a Conservation Category Wetland (CCW) and EPP Lake. Adjacent to the eastern boundary of Lots 313 and 314 lies a System 6 Conservation Reserve.

Lots 313 - 317, have been recognised by the Environmental Protection Authority (EPA), as part of the Greater Bunbury Region Scheme review, as containing "regionally significant remnant vegetation" and "are part of an outstanding coastal regionally significant natural area (Dalyellup/Minninup Swamp Natural Area)" (EPA 2003). The EPA has also stated that the 'remnant vegetation on Lots 315, 316 and 317 should be conserved and appropriately managed" (EPA 2003) however, Lots 313 and 314 have not been mapped as "Regionally significant natural area - Should be protected" as per Appendix 9 of the same document.

The proposed clearing area in Lots 313 and 314 east of the Minninup Road Reserve, is "considered to vary between degraded and completely degraded, with the structure of the vegetation no longer intact (Keighery,

1994). The area is parkland cleared with the understorey mostly comprising of weed species (predominantly exotic pasture species), with native trees and shrubs" (DoE, 2005). The proposed clearing area has had a long history of grazing (the area is "stocked with 100 head of cattle" (MBS Environmental, 2006a) which has contributed to the low levels of species diversity within the understorey as well as the degraded condition of the vegetation.

The Minister for the Environment previously informed the applicant in a response to an appeal lodged by the applicant on the 30th of November 2004, that "it is accepted, on advice from the EPA, that the environmental values of Lots 313-317 can be adequately protected without the reservation of the eastern portions of Lots 313 and 314 (the proposed clearing area). It is understood that the latter is more degraded than the eastern portions of Lots 315-317, which the EPA recommends for reservation" (MBS Environmental, 2005a).

It is therefore concluded that the area under application does not comprise a high level of biological diversity in comparison to the vegetation found in Lots 315-317 and the surrounding bushland and conservation areas.

**Methodology** EPA (2003)  
Keighery (1994)  
DoE (2005)  
MBS Environmental (2005a)  
MBS Environmental (2006a)  
GIS Databases:  
- Clearing Regulations - Environmentally Sensitive Areas - DoE 30/5/05  
- System 6 Conservation Reserves - DEP 06/95  
- Geomorphic Wetlands (Mgmt Categories), Swan Coastal Plain - DEC  
- EPP, Lakes - DEP 1/12/92

**(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**

CALM advice (2006) states that "Species of conservation significance that may be affected (by the proposed clearing of vegetation) include Carnaby's cockatoo (*Calyptorhynchus latirostris*) and Baudin's cockatoo (*Calyptorhynchus baudinii*), Western Ringtail Possum (*Pseudocheirus occidentalis*), and the Southern Brush-tailed Phascogale (*Phascogale tapoatafa tapoatafa*)." Due to the amount of vegetation that has been recently cleared north of Harewood Road, "the amount of available canopy habitat is important to these species." Other species were also identified as possibly inhabiting the local area however, these species were considered not likely to inhabit the proposed clearing area due to favouring areas of dense understorey, which the proposed clearing area is lacking, due to a history of heavy grazing and disturbance, or they prefer wetland environments, in which case, these species would prefer the habitat on the western side of the Minninup Road reserve.

Two native mammal species were recorded during surveys of the Harewoods Road properties, including the Western Grey Kangaroo (*Macropus fuliginosus*) and the Quenda (*Isodon obesulus fusciventer*) a Priority 5 species. The Quenda's characteristic diggings were recorded within the neighbouring wetland area and therefore outside of the proposed clearing area (MBS Environmental, 2005c).

A survey was conducted by Green Iguana (2006) for the Western Ringtail Possum (*Pseudocheirus occidentalis*) within Lots 313 and 314 Harewoods Road. The survey identified hollows within the Tuart trees in the proposed clearing area that could be suitable habitat for both Western Ringtail and Common Brushtail Possums. Three Western Ringtail Possum dreys were identified within Peppermint Trees in the proposed clearing area, one disused while two were intact. "No scat was found during a thorough search of the ground around the base of the drey trees and adjoining trees" (Green Iguana, 2006). During the survey neither Western Ringtail Possums nor Common Brushtail Possums were recorded. The survey concluded that "the lack of canopy connectivity and native understorey reduce the habitat value of the vegetation for Ringtail Possums" and "The lack of Western Ringtail Possum sightings together with the apparent absence of scat suggests that the Western Ringtail Possum is no longer present within the site" (Green Iguana, 2006).

Carnaby's Black-Cockatoo had "been reported breeding in the general area, and the site has been identified as a possible breeding area for the species because it contains mature Tuart (*Eucalyptus gomphocephala*) trees" (Davis & Bamford, 2004). A survey of the Harewood Road properties conducted in 2004, identified 68 trees throughout Lots 313-317 "as having hollows that may be suitable for breeding Carnaby's Black-Cockatoos," six of which are in the proposed clearing area. However, "no Carnaby's Black-Cockatoos were seen or heard during the visit" (Davis & Bamford, 2004). Davis & Bamford (2004) concluded that "the presence of breeding records from nearby and the suitability of habitat at Harewoods Road makes it likely that Carnaby's Black-Cockatoo will breed at the site in the future if the species is not already doing so." They also stated "Within 5km of the site includes banksia woodland that may be suitable foraging habitat, but it is not known if the area and quality of the foraging habitat are sufficient to support breeding" (Davis & Bamford, 2004).

A following survey conducted by Davis (2005) identified a pair of Baudin's Black-Cockatoos within the Harewoods Road properties (exact location unknown) and four Carnaby's Black-Cockatoos in the southern portion of the study site (not within the proposed clearing area) and it was concluded that "The study site offers Black-Cockatoos a breeding resource along with a potential feeding ground within close proximity."

This proposal was referred to the DEH for review, who determined that "the above action is not a controlled action under the Environment Protection and Biodiversity Conservation Act 1999, provided it is taken in a particular manner. Approval is therefore not required under the Act before the action can proceed."

The "Manner in which the proposed action is to be taken" include:-

- "1. The extractive area within Lots 313 and 314 must not exceed that shown in figures 2 to 4 of the referral document" (the proposed clearing area).
- "2. Those trees identified...as containing "significant tree hollows" for black-cockatoos within Lots 313 and 314, but located outside the extractive area, must not be removed or otherwise adversely impacted" and
- "3. A programme must be implemented, in consultation with relevant experts ..., for the establishment of compensatory nesting habitat for black-cockatoos so as to create a net gain in the number of breeding hollows within the Harewoods Road property" (DEH, 2005).

To mitigate the impacts of the loss of the six trees with hollows and address condition 3 of the DEH requirements, MBS Environmental have submitted a plan to be undertaken in conjunction with employees of the Western Australian Museum, for the "Establishment of Compensatory Cockatoo Nesting Habitat for Sand Extraction Operations on Lots 313 and 314 Harewoods Road, Gelorup" (MBS Environmental, 2007). It will be a condition of the clearing permit that the activities within the submitted program are adhered to.

A site visit conducted by Ecological Systems Branch in 2003, identified a total of 21 bird species for Lots 313 - 317 Harewoods Road, 15 of which were on the eastern portions of these Lots. Three of the species, the "Weebill, Golden Whistler and Broadtailed Thornbill are of regional significance as they have declined on the coastal Plain (Bush Forever, 2000)" (Ecological Systems Branch, 2003). However, only one out of these three, the Weebill was located within Lot 314 with the others being on Lots 315-317. CALM advice (2006) also states that the "breeding habitat may also be suitable for species of wetland birds that feed in the adjacent wetlands (EPA Bulletin 1108 Appendix 4)."

Bird species have been recorded as using the vegetation within the proposed clearing area however, given that the proposed clearing area is of a more degraded condition than Lots 315-317 and the surrounding conservation areas, it is unlikely that the proposed vegetation will be of a significant habitat value for these bird species.

The vegetation is a component of an ecological linkage and wildlife corridor between the Conservation Category Wetlands and the System 6 reserve. However, the proposed clearing area has been severely degraded by previous clearing and ongoing grazing, therefore given that Lots 315-317 and the surrounding bushland and conservation reserves are in better condition it is likely that these areas would be preferred habitat for fauna species within the area. Therefore, it is not likely that the proposed clearing area is considered significant habitat for indigenous fauna.

**Methodology** CALM (2006)  
Davis & Bamford (2004)  
Davis (2005)  
Department of Environment & Heritage (2005)  
Ecological Systems Branch (2003)  
Green Iguana (2006)  
MBS Environmental (2005c)  
MBS Environmental (2007)

**(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**

CALM (2006) confirmed that there are "58 records of 16 species of priority species occurring within the local area (within 10km of the proposed clearing area) but no records of Declared Rare Flora (DRF)." The closest being *Caladenia speciosa* a Priority four species, approximately 2km from the proposed clearing area.

Two botanical surveys were completed at the Harewoods Road properties (Lots 313-317) by G.S. McCutcheon on the 5/03/2001 and the 11/10/2002. The first survey reported only a Priority 3 species *Lasiopetalum membranaceum* occurred within the Harewood Road properties, with the greatest number of the species recorded in the area proposed for clearing (the area has subsequently been amended to remove these populations from the proposed clearing area). "The remainder form a reasonable population within the proposed southern buffer zone" (McCutcheon, 2001).

The second survey "Botanical Re-Survey of Lots 313 to 317, Harewoods Road, Dalyellup" stated "No further plant species of special conservation significance were recorded but two new locations for the Priority 2 (P3 as per CALM advice) species previously reported were found." "Two single plants of *Lasiopetalum membranaceum* were recorded as new finds" (McCutcheon, 2002).

Lance Bosch (MBS Environmental, Applicant's consultant) has confirmed that the populations identified of the "P3 species *Lasiopetalum membranaceum* (are) occurring in Lot 314." Mr Bosch has made a commitment that

"these mentioned groups occur outside the proposed clearing application area and will not be impacted by the extraction of sand and limestone on Lots 313 and 314" (Bosch, 2006).

Due to the fact that there are no Declared Rare Flora known to occur within the local area and that the Priority 3 species populations occur outside the proposed clearing area and will not be adversely impacted, it is concluded that the proposal is not likely to be at variance to this principle.

**Methodology** Bosch (2006)  
CALM (2006)  
McCutcheon (2001)  
McCutcheon (2002)  
MBS Environmental (2006c)  
GIS Databases:  
- Declared Rare and Priority Flora List - CALM 01/07/05

**(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**

CALM (2006) advises "There are 13 surveyed occurrences representing five types of Threatened Ecological Communities within the local area. The closest occurrence is 4.6km from the notified area.

Each of the above mentioned TEC's occurs within an EPP Draft Wetlands Policy wetland. There are no EPP wetlands within the notified area. There are several in the vicinity including the wetland on the western side of Lots 313 and 314 that is excluded from the current clearing application."

DoE site visit report states that the "vegetation condition is considered to vary between degraded and completely degraded, with the structure of the vegetation no longer intact (Keighery, 1994). The area is parkland cleared with the understorey mostly comprising of weed species, with native trees and shrubs." The "photographs in the report show how exotic pasture species dominate the understorey. It is therefore unlikely that the notified area contains a threatened ecological community" (CALM, 2006).

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

**Methodology** CALM (2006)  
DoE (2005)  
Keighery (1994)  
GIS Database:  
- Threatened Ecological Communities - CALM 12/4/05

**(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 lies within the Swan Coastal Plain IBRA region within the Shire of Capel in which 41.8% and 35.9% of vegetation remains respectively.

Two Beard Vegetation Associations are present within the proposed clearing area: Vegetation Association 6 (Medium woodland; tuart and jarrah), of which 23.3% of this vegetation type remains and therefore is of a 'vulnerable' status and Vegetation association 37 (Shrublands; tea-tree thicket), with 55.9% of this association remaining and therefore is of 'least concern' (Shepherd et al, 2001 & Department of Natural Resources and Environment, 2002). The proposed clearing area also lies within two Heddle vegetation complexes: the Vasse Complex (29.4% remaining) and the Karrakatta Complex Central and South (29.5% remaining) both at a 'vulnerable' status (Heddle et al, 1980 & Department of Natural Resources and Environment, 2002).

On advice provided by the EPA, the Minister for the Environment deemed, in a response to an appeal submitted by the applicant, that the environmental values of Lots 313-317 can be adequately protected without the reservation of the eastern portions of Lots 313 and 314 (MBS Environmental, 2005a).

Given that the vegetation condition of the proposed clearing area "is considered to vary between degraded and completely degraded (Keighery, 1994), with the structure of the vegetation no longer intact" and "exotic pasture species" dominating the understorey (DoE, 2005), the area proposed for clearing is not considered likely to be significant as a remnant of native vegetation in an area that has been extensively cleared.

**Methodology** Department of Natural Resources and Environment (2002)  
DoE (2005)  
MBS Environmental (2005a)  
Heddle et al (1980)  
Keighery (1994)

Shepherd et al (2001)

GIS Databases:

- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI
- Pre-European Vegetation - DA 01/01
- Heddle Vegetation Complexes - DEP 21/06/95

**(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**

There are no watercourses or wetlands existing within the proposed clearing area.

The closest watercourse is Five Mile Brook and is connected to the Five Mile Brook Diversion Drain which runs approximately 360m from the proposed clearing area to the east of the Harewoods Road properties. Due to the distance of the clearing area from the diversion drain, which also encompasses a System 6 Conservation area, providing a vegetated buffer between the drain and the proposed clearing area it is unlikely that the clearing will impact upon this watercourse.

The closest wetland, is a multiple use wetland on the adjoining property approximately 70m east of the proposed clearing area. The area surrounding this wetland is predominantly cleared. Therefore, given the minimal amount of vegetation left around the multiple use wetland, it is unlikely that the proposed clearing will cause further depreciation of this wetland.

A Conservation Category Wetland (CCW) (encompassing an EPP Lake approximately 124m from the proposed clearing area), exists on Lots 313 - 317 on the western side of the Minnip Road Reserve, outside of the proposed clearing area. A statement from the Department to the Shire of Capel states that "Under the Department's Wetland Position Statement the recommended buffer for wetland protection is a minimum 200m from the outer extent of the fringing vegetation, where groundwater quality protection can be assured through appropriate management" however, "it is the opinion of the Department that; the 110 metres from the wetland to the eastern extremity of the Minnip Road Reserve is sufficient in this situation because the groundwater table and hydraulic connection to the wetland will not be intersected, as determined from section 6.2.1 within the above mentioned document" (Sandpit Development on Lot 313 and 314 Harewoods Road, Gelorup, Shire of Capel: Application for Extractive Industry Licence - February 2006) (DoE, 2006). The Extractive Industry Licence granted by the Shire also restricts the applicant from intercepting the watertable by specifying that the "depth of excavation shall be limited to 11 metres AHD (Shire of Capel, 2007) ensuring a distance of approximately 6 metres between the highest water table level and the maximum extraction depth.

There are many other EPP Lakes, Conservation, Resource enhancement and Multiple Use wetlands within the local area (10km radius). The vegetation proposed for clearing is not likely to impact on these areas given the distance of these wetlands and the degraded to completely degraded (Keighery, 1994) condition of the vegetation in the proposed clearing area.

The Department believes that clearing of the proposed vegetation is not likely to impact on any of the above mentioned wetlands or watercourses within the local area and therefore the proposal is not likely to be at variance to this principle.

**Methodology**

DoE (2006)

Keighery (1994)

MBS Environmental (2006b)

Shire of Capel (2007)

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

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

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

The area under application is situated in a no known risk area for acid sulphate soils. An area adjacent to Minnip Road Reserve (approximately 150m from the proposed clearing area) is of a moderate to low risk and high to moderate risk area for acid sulphate soils which is associated with the Conservation Category Wetland on the eastern portions of Lots 313 and 314.

The groundwater salinity for this area is mapped at 500-1000mg/L, representing a low risk.

A submission from the Soil and Land Conservation Office (DAWA) to MBS Environmental during a previous

draft Public Environmental Review conducted in 2003 states that  
 "provided that the resource extraction and rehabilitation are progressively carried out in accordance with industry best practice guidelines, land degradation through soil erosion is unlikely to result,"  
 "with progressive rehabilitation, onsite and off site waterlogging is unlikely to result,"  
 "On site or off site salinity is a land degradation hazard that is not likely to occur either during or after the implementation of this proposal on the Quindalup and Spearwood land systems" and  
 "The progressive clearing, mining and rehabilitation to native species is unlikely to significantly increase the risk of nutrients being exported from the site."  
 Therefore, "the land degradation risks identified are manageable and are unlikely to pose a significant hazard." These comments were based upon the area being revegetated to native species, however given the proposed future land use of 'Urban Deferred' under the Draft Greater Bunbury Region Scheme, the proposed extraction area will be returned to pasture and rehabilitated for future urban development as per condition of Planning Consent granted by the Shire (Shire of Capel, 2007).

DAWA advice (2005) relating to the original application for the clearing of 43 hectares for the purposes of grazing and pasture at Lots 313 and 314 stipulates that "Further site visits in 2002, 2003 and 2004 by officers of the Department of Agriculture in relation to other matters confirmed that land degradation is unlikely to result from clearing on the property."

As a result of the advice received from the Department of Agriculture and the low risk of acid sulfate soils and salinity, it can be determined that the clearing of the native vegetation (throughout an area of 25.33ha) is not likely to cause appreciable land degradation.

**Methodology** DAWA (2003)  
 DAWA (2005)  
 Shire of Capel (2007)  
 GIS Database:  
 - Acid Sulfate Soil Risk Map, SCP - DOE 01/02/04  
 - Groundwater Salinity, Statewide - 22/02/00  
 - Salinity Risk LM 25m - DOLA 00

**(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 proposed clearing area on the eastern portions of Lots 313 and 314 Harewoods Road, Gelorup lies between a Conservation Category Wetland (CCW), which is on the western portion of these lots on the opposite side of the Minnipup Road Reserve, and a System 6 Conservation Area (C71) to the east of these properties. The existing vegetation currently contributes to an ecological linkage between the two conservation areas and is a component of the Dalyellup/Gelorup/Crooked Brook Ecological Linkage.

CALM (2006) has stated due to the close proximity of the proposed clearing area to the EPP wetland "in the event that a clearing permit is issued, (the wetland) would be better protected from deleterious impacts of clearing by increasing the proposed buffer of 60m to a width of 200m. The area that is proposed to be cleared would also contribute to an ecological linkage between a System 6 Reserve and the chain of EPP wetlands and ESA's (Environmentally Sensitive Areas). Removal of native vegetation within the notified area will impact the effectiveness of this ecological linkage." The proposed clearing area has been amended to increase the buffer between the proposed clearing area and the EPP wetland (refer to Principle f).

CALM advice (2006) also states that "The recent clearing of a large area of native vegetation to the north of Harewoods Road for a housing development, is likely to result in the vegetation on lots 313 and 314 (the subject of this application) playing a more important role in terms of connectivity."

In a reply from the Minister of Environment in 2004 in regards to an appeal the applicant lodged in relation to the Greater Bunbury Region Scheme, it was stated that: "it is accepted, on advice from the EPA, that the environmental values of Lots 313-317 can be adequately protected without the reservation of the eastern portions of Lots 313 and 314. It is understood that the latter is more degraded than the eastern portions of Lots 315-317, which the EPA recommends for reservation" (MBS Environmental, 2005a).

In order to ensure that an ecological link remains between the two conservation areas the Minister determined that Lot 317 be zoned 'Regional Open Space' "for the protection of approximately 25 hectares, of vegetation which would provide a corridor of approximately 450 metres in width linking the wetland and System 6 reserve" (MBS Environmental, 2005b) and that this lot "shall be reserved for conservation purposes" (Minister for the Environment, 2005). "The Western Australian Planning Commission is in the process of finalising zoning for Lots 315 and 316 in the Greater Bunbury Region Scheme" (EPA, 2005) however, Lots 315-317 have been recognised by the EPA as being "regionally significant natural area" and should be protected (EPA, 2003).

The Tuart Forest National Park is located approximately 7.3km south west of the proposed clearing area. CALM (2006) advice states that the "Tuart National Park is sufficiently distanced from the notified area so as to be unaffected by the proposed clearing being carried out." Two Register of National Estates exist within the

local area the Ludlow-Wonnerup Area and Eagle Towers, both are approximately 7.4km from the proposed clearing area. A Water and River's Commission Estate is located approximately 6.3km from the proposed clearing area. Given the distance of the estates from the proposed clearing area, it is unlikely that the clearing of the vegetation will impact them.

Despite the fact that the proposed clearing area on the eastern portions of Lots 313 and 314 is of a degraded to completely degraded condition (Keighery, 1994) the area is still a component of an ecological link between the CCW and the System 6 Reserve and therefore the clearing of this vegetation may impact upon the effectiveness of this linkage. Therefore, this proposal may be at variance to this principle.

**Methodology** CALM (2006)  
EPA (2003)  
EPA (2005)  
Keighery (1994)  
MBS Environmental (2005a)  
MBS Environmental (2005b)  
Minister for the Environment (2005)  
GIS Databases:  
- CALM managed Lands and Waters - CALM 1/07/05  
- System 6 Conservation Reserves - DEP 06/95  
- Geomorphic Wetlands (Mgmt Categories), Swan Coastal Plain - DEC  
- Register of National Estate - EA 28/01/03  
- WRC Estate - DOE 9/04

**(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 is not likely to be at variance to this Principle**

The Harewoods Road properties are within a proclaimed groundwater area under the Rights in Water and Irrigation Act 1914 (RIWI Act) and is within the Bunbury Groundwater Area and Five Mile Brook Catchment. The applicant therefore requires a licence to take ground water for the purposes of dust suppression from an existing stock bore on the property. This issue is addressed in 'Other Matters' of this report.

The proposed clearing area has been identified as being within a Draft Priority 3 Public Drinking Water Source Area (PDWSA) as part of the Bunbury Water Reserve: Draft Bunbury-Busselton Water Source Protection Plan (Water and Rivers Commission, 2001). Priority 3 "areas are declared over land where water supply sources need to co-exist with other land uses such as residential, commercial and light industrial developments. Protection of P3 areas is achieved through management guidelines rather than restrictions on land use" (Water and Rivers Commission, 2001). This issue is considered within 'Other Matters' of this assessment report.

The clearing of native vegetation on the east of the Minnipup Road Reserve of Lots 313 and 314 is unlikely to cause deterioration in the quality of surface water as the closest watercourse is Five Mile Brook, which is connected to the Five Mile Brook drain which runs along the eastern boundary of Lots 315-317 south of the proposed clearing area. Given that there is a separation distance of approximately 360 metres from the eastern edge of the proposed clearing area to the drain, including the existing vegetation within Crown Reserve land, it is unlikely that the clearing of the vegetation in Lots 313 and 314 will cause deterioration in the quality of surface water in the local area.

The proposed clearing area has a groundwater salinity range of 500-1000mg/L and therefore a low salinity risk and a mean annual rainfall of 800mm. A previous submission from the Department of Agriculture (2003) regarding the original proposal for sand and limestone extraction from all of Lots 313-317, states that "on site or off site salinity is a land degradation hazard that is not likely to occur either during or after the implementation of this proposal."

The Extractive Industry Licence issued by the Shire contains a condition requiring the applicant to extract to a maximum depth of 11m AHD to ensure there is no interception of the groundwater table which could cause deterioration of the groundwater quality.

**Methodology** Department of Agriculture (2003)  
Water and Rivers Commission (2001)  
Shire of Capel (2007)  
GIS Databases:  
- Cadastre - DLI  
- Groundwater Salinity, Statewide - 22/02/00  
- Hydrography, linear (hierarchy) - DOW  
- Hydrographic Catchments - Catchments - DOE 23/3/05  
- Public Drinking Water Source Areas (PDWSAs) - DOE 07/02/06  
- Rainfall, mean annual - BOM 30/09/01  
- RIWI Act, Groundwater Areas - WRC 13/06/00

**(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 area proposed to be cleared has an elevation range of 10 - 25m AHD with the closest water course and connecting diversion drain being approximately 360m east of the proposed clearing area, including a vegetated buffer of the System 6 (C71) conservation area. Therefore, it is unlikely that the clearing of native vegetation on the eastern portions of Lots 313 and 314, over an area of 25.33ha, with an understorey which consists predominantly of pasture species, will impact upon the peak flood height or duration.

**Methodology GIS Databases:**

- Topographic Contours, Statewide - DOLA 12/09/02
- Hydrography, linear - DOE 1/2/04
- System 6 Conservation REserves - DEP 06/95

**Planning Instrument, Native Title, Previous EPA decision or other matter:**

**Comments**

A letter to MBS Environmental from the EPA, was received by the Department on the 3rd January 2005. It states that the amended proposal to the EPA (Lots 313 and 314) "raises a number of environmental issues. However, the overall environmental impact of the proposal is not so severe as to require formal assessment by the Authority, and the subsequent setting of formal conditions by the Minister for the Environment" (EPA, 2005).

The properties under application are currently zoned as "Rural" under the Town Planning Scheme. Documents supplied by the Department of Planning and Infrastructure (DPI, 2005) stipulate that the "WAPC (Western Australian Planning Commission) in its deliberations on the GBRS (Greater Bunbury Region Scheme) has concluded (consistent with the Minister for Environment's determination re: Mr Piacentini's appeal on the subject land) that Lots 313, 314, 315 and 316 should be Urban Deferred with the southern most lot (Lot 317) reserved for Regional Open Space purposes." In a statement published on the 31 October 2005 by the Minister for Environment; Science in relation to the Greater Bunbury Region Scheme, "Lot 317 Harewoods Road, Dalyellup shall be reserved for conservation purposes to protect the integrity, function and environmental value of the bushland on the land to the requirements of the Western Australian Planning Commission on advice of the Environmental Protection Authority, and shall only be used for conservation and complementary purposes." Lots 315 and 316, along with Lot 317, have been recognised by the EPA as being of regionally significant natural area (EPA, 2003).

The Shire of Capel advised the Department in a letter dated 24th January 2007 that the Council "resolved pursuant to Clause 8.3.3 of Town Planning Scheme No 7 to grant Planning Consent to the extraction of sand from lots 313 and 314." A copy of the Extractive Industry Licence issued for the term of four years commencing 24th January 2007 was also supplied to the Department. Both the planning consent and the extractive industry licence have been granted with conditions.

Due to the possibility of the proposal to impact upon Black-cockatoo species, the proposal was referred to Department of Environment and Heritage (DEH) for comment under the Environment Protection and Biodiversity Conservation Act 1999. The Department advised on the "11th November 2005 that the above action is not a controlled action under the Environment Protection and Biodiversity Conservation Act 1999, provided it is taken in a particular manner. Approval is therefore not required under the Act before the action can proceed." Surveys for habitat trees and the presence of Black-Cockatoos within the Harewoods Road properties were undertaken and have been addressed with the DEH's conditions in Principle b.

The applicant requires water for the purposes of dust suppression during the extraction process. The applicant's consultant has confirmed that they will be using a stockwatering bore that exists on the property. The applicant does not have a licence to take water from this bore. An application was submitted to the DoW in late March 2007 however, a decision has not yet been made on the application.

Draft P3 Public Drinking Water Source Area (PDWSA) - As per Appendix 1 of the Bunbury Water Reserve Draft Bunbury-Busselton Water Source Protection Plan, which shows land use compatibility with PDWSA protection objectives, extractive industries is a "Conditional" land use in Priority 3 areas which includes conditions to "cover the storage of fuels and chemicals, the depth of mining in relation to the water table with strict guidelines for rehabilitation" (Water and Rivers Commission, 2001). The sand extraction proposal is in line with the requirements set out in the Statewide Policy No. 1: Policy and Guidelines for Construction and Silica Sand Mining in Public Drinking Water Source Areas (Water and Rivers Commission, 1999) including the proposal being a dry method of sand extraction, extraction "will be confined to a nominal final depth of 11.0 metres Australian Height Datum (AHD)" "which is about 6 metres above groundwater level" (MBS Environmental, 2006a) and "No diesel, petrol, oil or lubricants will be stored or discharged on-site, and all on-site machinery and vehicles will be fuelled from mobile tankers" (MBS Environmental, 2006b). The policy also states that "the rehabilitation objective should be to return the site to a state that is compatible with the adjacent area and the intended final land use" (Water and Rivers Commission, 1999). Therefore, given that the proposed clearing area is intended for urban zoning in the future, as per the Greater Bunbury Region Scheme, Lots 313 and 314 will be rehabilitated with pasture species for the existing rural use and in preparation for urban development.



A submission received by the Department stated "that comprehensive and appropriately timed flora and fauna surveys of the site be conducted before a decision on this application is made." The flora and fauna surveys have been completed for this application and have duly been considered within the assessment report.

A second submission opposes the clearing of the native vegetation, particularly Tuart Woodland. It states that "compared to Lot 312, the photograph shows Lots 313 and 314 to be already substantially parkland cleared and have been used for grazing in that condition for many years and large trees with habitat hollows should be retained. There has already been a huge loss of habitat trees in the Dalyellup area and further clearing should be restricted." These concerns have been addressed through the modification to the extraction area to minimise the number of trees with hollows to be cleared and the implementation of a cockatoo nesting box program as required by the Department of Environment and Heritage.

**Methodology** Shire of Capel (2007)  
 DEH (2005)  
 MBS Environmental (2006a)  
 MBS Environmental (2006b)  
 Minister for the Environment (2005)  
 EPA (2005)  
 DPI (2005)  
 Water and Rivers Commission (1999)  
 Water and Rivers Commission (2001)  
 GIS Databases:  
 - Town Planning Scheme Zones - MFP 8/98

#### 4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Extractive Industry	Mechanical Removal	25.33		Recommendation to grant application to clear 25.33ha for the purposes of sand extraction for a duration of four years to coincide with Extractive Industry Licence period. Recommendation to grant is with conditions for weed control, additional cockatoo nesting habitat establishment and monitoring, and topsoil replacement.

#### 5. References

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- DAWA (2003) Sand Pit Development Harewood Road, Gelorup, Shire of Capel: Comments on draft Public Environmental Review prepared for Piacentini and Son Pty Ltd, Soil and Land Conservation, DAWA, South Perth, Western Australia. TRIM ref DOC19719.
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- MBS Environmental (2005b) EPA Referral: Public Environmental Review of Proposed Sand and Limestone Extraction on Lots

- 313-317 Harewoods Road, Gelorup, Martinick Bosch Sell Pty Ltd, West Perth, Western Australia.
- MBS Environmental (2005c) DEH Referral: Referral under the Environment Protection and Biodiversity Conservation Act 1999, Martinick Bosch Sell Pty Ltd, West Perth, Western Australia.
- MBS Environmental (2006a) Application for a Sandpit Extractive Industry Licence on Lots 313 and 314 Harewoods Road, Gelorup, Shier of Capel: Amendment to Proposal dated February 2006, Martinick Bosch Sell Pty Ltd, West Perth, Western Australia. TRIM ref DOC19739.
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## 6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management (now DEC)
DAWA	Department of Agriculture and Food
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment (now DEC)
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 DoW)