



# Clearing Permit Decision Report

Government of Western Australia  
Department of Environment Regulation

## 1. Application details

### 1.1. Permit application details

Permit application No.: 5051/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Shayne Douglas Joynson

### 1.3. Property details

Property: LOT 1 ON DIAGRAM 43421 (House No. 16580 SOUTH WESTERN NORTH BOYANUP 6237)  
Local Government Area: Shire of Capel  
Colloquial name:

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Refused  
Decision Date: 9 October 2013

## 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
Mapped Beard vegetation association 1000 is described as 'Mosaic: Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree (Melaleuca Spp.)' (Shepherd et al, 2001).	The applicant proposes to clear 10.7 hectares of native vegetation within Lot 1 on Diagram 43421, North Boyanup, Shire of Capel for the purpose of sand extraction.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The condition of the vegetation under application was determined by a site inspection undertaken by the former Department of Environment and Conservation (DEC 2012a) and a Vegetation and Dieback Survey completed by Ekologica (2012a).
Hedde vegetation Bassendean complex central and south is described as 'Woodland of Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) with well defined second storey of Allocasuarina fraseriana (Sheoak) and Banksia grandis (Bull Banksia) on the deeper soils and a closed scrub on the moister sites. The understorey species reflect similarities with the adjacent vegetation complexes' (Hedde et al, 1980).		To	Two dominant vegetation types were identified within the application area:
Hedde vegetation Southern River complex is described as 'Open woodland of Corymbia calophylla (Marri) - Eucalyptus marginata (Jarrah) - Banksia species with fringing woodland of		Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The dominate vegetation type is Banksia attenuata woodland with Banksia illicifolia and an overstorey of Eucalyptus marginata and Corymbia calophylla distributed unevenly within the woodland with an understorey of Kunzea glabrescens in places and a dense layer of Podocarpus drouynianus observed in the middle of the application area (DEC 2012a).
			The second vegetation type is a Kunzea glabrescens tall shrubland (DEC 2012a).
			Approximately 2.04 hectares of the area under application is considered to be a Good (Keighery 1994) condition. The remaining area is considered to be Completely Degraded to Degraded (Keighery 1994) condition.

Eucalyptus rudis (Flooded Gum) - Melaleuca raphiophylla (Swamp Paperbark) along creek beds' (Heddle et al, 1980).

### 3. Assessment of application against clearing principles

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

##### Comments **Proposal is at variance to this Principle**

The amended application proposes to clear 10.7 hectares of native vegetation for the purpose of sand extraction. The applicant has advised the entire 10.7 hectares proposed to be cleared will be rehabilitated with dieback tolerant native vegetation.

The clearing proposed under the initial application included 13.1 hectares of native vegetation. The dominant vegetation type is Banksia woodland which was in a good (Keighery, 1994) condition and included areas of wetland dependant vegetation. The assessment of this proposal concluded that the proposed clearing was at variance to principles (a), (b), (e), (f) and (i), may be at variance to principle (c), (g) and (h) and is not likely to be at variance to principles (d) and (j). The applicant was notified of these issues and was asked to modify the application. In response the applicant has modified the application by reducing the application area by 2.4 hectares to create larger buffers to adjacent vegetation and a wetland south of the application. The following assessment is for the amended area.

The remnant vegetation under application is representative of Beard vegetation association 1000, which is described as mosaic: medium forest; Jarrah-marri / low woodland; Banksia / low forest; Teatree (Melaleuca spp.). The local area (10 kilometres radius) contains approximately 30 per cent native vegetation.

A total of sixty six species of vascular flora were identified within and close to the boundary of the application area (Ekologica 2012b). Eleven priority flora species have been recorded within a 5 kilometres radius of the application area (Ekologica 2012b). A priority 4 species has been recorded approximately 0.3 kilometres south on the same soil type and vegetation type.

A flora survey targeting rare and priority flora undertaken in October 2012 within Lot 1 identified one Priority 4 species within the road reserve and along the eastern boundary of Lot 1. All of these plants were located outside of the application area. No other rare or priority flora were identified within the application area (Ekologica 2012b).

Banksia Woodland is the most extensive vegetation type within the application area. The Banksia Woodland appears to be identical with the Priority Ecological Community (PEC) "Southern Banksia attenuata woodlands" (P3 (Ekologica 2012a). The application area shares more than twenty "typical" and "common" species associated with this PEC including, Banksia attenuata, Calytrix fraseri, Hypocalymma robustum, Jacksonia horrida, Melaleuca thymoides, Stirlingia latifolia and Dasypogon bromeliifolius. (Ekologica 2012a). The applicant has advised that given the degraded condition of the majority of the application area and the presence of Phytophthora throughout the site, the vegetation proposed to be cleared has some major resilience issues that may render it no longer fitting the criteria for classification as woodlands (SJ Road Works 2012). The presence of Phytophthora is acknowledged however no additional vegetation surveys have been provided by SJ Road Works (2012) to support this statement and therefore the vegetation proposed to be cleared is considered to representative of this PEC.

Six fauna species considered to be rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometres radius) including, Calyptorhynchus baudinii (Baudin's Cockatoo), Calyptorhynchus latirostris (Carnaby's Cockatoo), Dasyurus geoffroii (Chuditch), Moggridgea tingle (Tingle Trapdoor spider), Pseudocheirus occidentalis (Western Ringtail Possum) and Setonix brachyurus (Quokka). A fauna survey conducted within the application area confirmed the vegetation proposed to be cleared represents foraging habitat for black cockatoos (Harewood 2013). During a site inspection undertaken by the former Department of Environment and Conservation (DEC 2012a) suitable habitat for the Baudin's Cockatoo, Carnaby's Cockatoo and the Western Ringtail Possum were identified. The applicant has removed the area of Western Ringtail Possum habitat from the application.

A large part of the application is infested within Phytophthora cinnamomi (dieback) and has led to a reduction in the density of understorey over much of the area (Ekologica 2012a).

DER acknowledges the level of degradation of the vegetation under application, which is likely to be attributable to the presence of dieback and that the values of the vegetation may be further diminished in the long term. However, DER assesses the current values of vegetation.

The Greater Bunbury Regional Scheme (EPA 2003) identifies a regionally significant ecological linkage, the McLarty / Kemerton / Twin Rivers / Preston River / Gwindinup Ecological Linkage, extending north - south along the South Western Hwy, including the vegetation under application. The proposed clearing is likely to contribute to further degradation or disruption of this ecological linkage.

The application area is in close proximity to a major ecological linkage identified in the South West Regional Ecological Linkage Technical Report (Molloy et al., 2009) and endorsed by the Environmental Protection Authority (EPA, 2009). The application area is located approximately 630 metres west of the axis line of this ecological linkage. The application area is classed as 1b under the scheme, these areas represent native vegetation touching or less than 100 metres from vegetation classed as 1a. Vegetation classified as 1a represents native vegetation touching or less than 100 metres from a linkage. (Molloy et al. 2009). "The landscape function of an ecological linkage will be considered impaired where the proposed development causes the proximity value of a level 1 patch of remnant vegetation to change to level 2" (Molloy et al. 2009).

The area under application as proposed is at variance to this principle.

**Methodology** Reference:  
DEC (2007-)  
DEC (2012a)  
Ekologica (2012a)  
Ekologica (2012b)  
EPA (2003)  
Harewood (2013)  
Molloy et al. 2009  
SJ Road Works (2012)

GIS Databases:  
-SAC Biodata sets - accessed 5 June 2012

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

**Comments Proposal is at variance to this Principle**

Six fauna species considered to be rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius) including, *Calyptorhynchus baudinii* (Baudin's Cockatoo), *Calyptorhynchus latirostris* (Carnaby's Cockatoo), *Dasyurus geoffroi* (Chuditch), *Moggridgea tingle* (Tingle Trapdoor spider), *Pseudocheirus occidentalis* (Western Ringtail Possum) and *Setonix brachyurus* (Quokka).

A site inspection undertaken by former DEC (2012a) determined the extent of hollow-bearing or potentially hollow-bearing trees within the application area to be low, however the *Banksia* sp. and *Corymbia calophylla* sp were identified as significant foraging habitat for the black cockatoo species. Carnaby's cockatoo is known to forage on *Banksia attenuata* and *Banksia illicifolia* which are species which were identified during the site inspection. In addition Carnaby's cockatoo are known to go 'grubbing' for insects on these plant species and other plant species that may occur within Lot 1 including *Agonis flexuosa*.

A Carnaby's Cockatoo roost site is located 8 kilometres south of the application area. Therefore, the vegetation under application may provide important feeding habitat for this species.

A fauna survey undertaken within the application area determined that the proposed extraction area contains 7.5 hectares of black cockatoo foraging and potential nesting habitat. Foraging habitat is mainly represented by the *Banksia* woodland which also contains scattered *Eucalyptus marginata* trees. Evidence of both these resources being utilised by black cockatoos was observed during the survey (Harewood 2013). Harewood (2013) advised the value of this area of vegetation to cockatoos is declining given the ongoing effects of dieback on *Banksia* and *E. marginata* trees. Harewood (2013) noted that the best quality western ringtail and black cockatoo habitat is located in the south west corner of Lot 1 outside the application area.

Incremental loss of *Banksia* woodlands through the clearing of individual areas is causing a restriction in the availability of food sources on the Swan Coastal Plain to the detriment of the cockatoos. The significance of any individual area cannot be quantified completely as the system operates as a whole.

DER acknowledges the level of degradation of the vegetation under application, which is likely to be attributable to the presence of dieback and that the values of the vegetation may be further diminished in the long term. However, DER assesses the current values of vegetation

The applicant advised there is a limited number of canopy trees that could possibly provide nesting sites for Carnaby's cockatoo (SJ Road Works 2012). A fauna survey conducted over the application area identified some *E. marginata* trees that may represent potential breeding habitat although no evidence of any being used for this purpose was identified (Harewood 2013). A site inspection identified that there were few hollowing bearing trees within the application area and that this area is more important as foraging habitat.

Little habitat was identified for the Western Ringtail Possum, however scattered *Agonis flexuosa* species were identified along the southern boundary of Lot 1. Western Ringtail Possum scats were identified within the adjacent *Agonis flexuosa* woodland which has been excluded from the application area (DEC 2012a).



A fauna survey conducted within Lot 1 identified 11 Western Ringtail Possum dreys, four of which were located within the proposed clearing area. No evidence of the dreys being occupied at the time of the survey was found and no Western Ringtail Possums scats were observed. A single Western Ringtail Possum was observed during the night survey in vegetation in the southern section of Lot 1 outside of the proposed clearing area. A single common brushtail possum (*Trichosurus vulpecular*) was also observed.

Harewood (2013) advised the fauna survey confirmed that vegetation within the Lot is being used by Western Ringtail Possums as habitat, though the overall level of utilisation appears to be low with only one individual observed during the night time survey. The quality of Western Ringtail Possum habitat within the proposed clearing area appears to be low compared to other areas within Lot 1 that are to be retained. The area proposed to be cleared at times may harbour a small number of transient individuals and therefore the vegetation is seen as dispersal habitat.

Due to the presence of understory and close proximity to a wetland the vegetation proposed to be cleared may be suitable for ground dwelling fauna. However a fauna survey undertaken by Harewood (2013) did not identify any ground dwelling fauna within the application area.

The local area (10 kilometres radius) contains approximately 30 per cent native vegetation, and the vegetation under application has been identified as part of the McLarty / Kemerton / Twin Rivers / Preston River / Gwindinup Ecological Linkage (EPA 2003).

The application area is also in close proximity to a major ecological linkage identified in the South West Regional Ecological Linkage Technical Report (Molloy et al., 2009) and endorsed by the Environmental Protection Authority (EPA, 2009). The application area is located approximately 630 metres west of this ecological linkage. The application area is classed as 1b under the scheme, these areas represent native vegetation touching or less than 100 metres from vegetation classed as 1a (Molloy et al. 2009). Despite the high level of disturbance to the vegetation under application, it is considered that the canopy cover contributes to the function and value of this linkage for arboreal and avian fauna.

The applicant has advised vermin proof boundary fencing will be installed which will alleviate over grazing by both native and exotic species of herbivores (SJ Road Works 2012). This boundary fence may inhibit ground dwelling fauna from entering the application area and therefore this area will not be able to be utilised as an ecological linkage for these species.

In response to the above assessment the applicant has advised that they are willing to retain and rehabilitate buffers (thus reducing the application area by 2.7 hectares), the application area will be rehabilitated with dieback tolerant native vegetation and with staged clearing and rehabilitation.

Although the applicant has advised that the entire application area will be rehabilitated with dieback tolerant native vegetation, the revegetation of a temporary land use site is considered to be in line with best management practices. Considering the lag time associated with restoring environmental values and the risk of failure, this will not mitigate the impacts to the linkage or to native fauna habitat..

The application area contains significant foraging habitat for the Carnaby's Cockatoo, contributes to the function and value of two ecological linkages, particularly for arboreal and avian fauna. Therefore, the proposed clearing is at variance to this principle.

#### Methodology

##### References:

EPA (2003)  
DEC (2007-)  
DEC (2012a)  
DEC (2012b)  
Harewood (2013)  
SJ Road Works (2012)

##### GIS Databases:

-SAC Biodata sets - accessed 5 June 2012

### **(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**

Six rare flora species have been recorded within the local area (10 kilometres).

A flora survey targeting rare and priority flora was undertaken in October 2012 within Lot 1. No rare flora was identified within the application area (Ekologica 2012b).

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

#### Methodology

##### Reference:

-Ekologica (2012b)

GIS Databases:  
-SAC Biodata sets - accessed 5 June 2012

**(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 closest Threatened Ecological Community (TEC) is the 'Eucalyptus calophylla woodlands on heavy soils of the Swan Coastal Plain' which is located 2 kilometres north of the application area.

Given the distance between the closest TEC and the application area it is unlikely the proposed clearing will be part of or necessary for the maintenance of this TEC.

The vegetation located within the application area and within the priority ecological community has similarities to the threatened ecological community type SCP1b 'Southern Corymbia calophylla woodlands on heavy soils' (DEC 2013).

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

**Methodology** References  
-DEC 2013

GIS Database:  
-Sac Biodata sets - accessed 5 June 2012

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

**Comments Proposal is at variance to this Principle**

The area under application is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 39 per cent of its Pre European vegetation extent remaining (Government of Western Australia 2011).

The vegetation under application is mapped as Beard Vegetation Association 1000, which has approximately 27 per cent of its Pre European extent remaining in the Swan Coastal Plain bioregion (Government of Western Australia 2011).

Digital imagery (Bunbury 50cm Orthomosaic - Landgate 2008) indicates that the local area (10 kilometre radius) surrounding the area under application retains approximately 30 per cent vegetation cover.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The two vegetation types under application retain less than the Federally recommended threshold level.

The application area is also in close proximity to a major ecological linkage identified in the South West Regional Ecological Linkage Technical Report (Molloy et al., 2009) and endorsed by the Environmental Protection Authority (EPA, 2009). The application area is located approximately 650 metres west of the axis line of this ecological linkage. The application area is classed as 1b under the scheme, these areas represent native vegetation touching or less than 100 metres from vegetation classed as 1a (Molloy et al. 2009). Despite the high level of disturbance to the vegetation under application, it is considered that the canopy cover contributes to the function and value of this linkage for arboreal and avian fauna.

The Greater Bunbury Regional Scheme (EPA 2003) identifies a regionally significant ecological linkage, the McLarty / Kemerton / Twin Rivers / Preston River / Gwindinup Ecological Linkage, extending north - south along the South Western Hwy, including the vegetation under application. The proposed clearing is likely to contribute to further degradation or disruption of this ecological linkage.

The vegetation under application is considered to be a significant remnant as it provides suitable habitat for threatened fauna and is in close proximity to two major ecological linkages.

Given the above the vegetation under application is a significant remnant in an extensively cleared area and the proposed clearing is at variance to this principle.

In response to the above assessment the applicant has advised that they are willing to retain and rehabilitate buffers (thus reducing the application area by 2.7 hectares), the application area will be rehabilitated with dieback tolerant native vegetation and are proposing to clear in stages.

It is acknowledged that the applicant has reduced the amount of vegetation proposed to be cleared however it

does not change the variance to this principle. The applicant has advised that the application area will be rehabilitated with dieback tolerant native vegetation.

Although the applicant has advised the application area will be rehabilitated with dieback tolerant native vegetation, the revegetation of a temporary land use site is considered to be in line with best management practices. Considering the lag time associated with restoring environmental values and the risk of failure, this will not mitigate the impacts to the linkage or to native fauna.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,209	587,833	39	35
Shire*				
Shire of Capel	55,945	19,122	34	44
Beard Vegetation Association in Bioregion 1000	94,175	25,172	27	17
Hedde Vegetation Complex				
Southern River complex	57,979	11,501	20	-
Bassendean Complex (central/south)		87,477	23,624	27

**Methodology** Reference:  
Government of Western Australia. (2011).  
-Molloy et al., 2009

GIS Database:  
-Bunbury 50cm Orthomosaic - Landgate 2008  
- NLWRA, Current Extent of Native  
-Sac bio datasets - accessed 5 June 2012

**(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**

A Resource Enhancement wetland is mapped 50 metres south of the application area. Resource Enhancement Category wetlands are priority wetlands which are partially modified but still retain substantial ecological attributes and functions (Water and Rivers Commission 2001). The applicant has advised a 50 metre buffer to the edge of the Resource Enhancement wetland will be provided (SJ Road Works 2012).

A Multiple Use wetland is located approximately 60 metres north of the application area. Multiple Use Category wetlands have few important attributes and functions remaining (Water and Rivers Commission 2001).

DoW (2012) has advised a desktop assessment shows that there are no internal drains that would provide a pathway to the Preston River. The Preston River is of sufficient distance from the proposed clearing area and land use and therefore there is a low risk of receiving surface water runoff from the application area. No surface water monitoring is required.

Given a 50 metre buffer has been provided for both wetlands it is unlikely the clearing as proposed will have a significant impact on the environmental values of the wetland.

**Methodology** Reference:  
-DEC (2012a)  
- DoW (2012)  
- SJ Road Works (2012)  
-Water and Rivers Commission (2001)

GIS Databases:  
-Hydrology, linear  
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

**(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**

There are two soil types mapped within the application area which Northcote (1960-68) describes as;

Cb38: Sandy dunes with intervening sandy and clayey swamp flats: chief soils are leached sands, sometimes with a clay D horizon below 5 ft, on the dunes and sandy swamps. Associated are various soils in the clayey swamps.

Mu11: River terraces: chief soils are neutral red earths and neutral yellow earths on the higher terrace.

Given the properties of the soil within the application area, the clearing of 10.7 hectares of native vegetation may cause wind erosion.

The topography of the property gently slopes downwards towards the southern boundary of the application area. Given this downward slope the clearing as proposed may cause water erosion.

To reduce wind erosion the applicant has advised clearing will be completed in stages and during sand removal process and subsequent restoration processes wetting agents will be applied to control water runoff. Erosion as a result of wind forces in dry conditions will be controlled with further application of wetting agents as well as water from an on-site tank (SJ Road Works 2013).

Given the above, the clearing as proposed is not likely to be at variance to this principle.

**Methodology**

References:

- Northcote (1960-1968)
- Shire of Capel (2012)

GIS Database:

- Soils, Statewide

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments**

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

The closest conservation reserve is an unnamed Nature Reserve which is located approximately 5.2 kilometres south east of the application area.

The application area is in close proximity to a major ecological linkage identified in the South West Regional Ecological Linkage Technical Report (Molloy et al., 2009) and endorsed by the Environmental Protection Authority (EPA, 2009). The application area is located approximately 650 metres west of the axis line of the linkage. Despite the high level of disturbance to the vegetation under application, it is considered that the canopy cover contributes to the function and value of this linkage for arboreal and avian fauna.

The clearing as proposed will also contribute to fragmentation of the already extensively cleared landscape and the McLarty / Kemerton / Twin Rivers / Preston River / Gwindinup Ecological Linkage (EPA 2003), of which the vegetation under application is a part. The proposed clearing is likely to contribute to further degradation or disruption of this ecological linkage.

The applicant has advised a 50 metre buffer to the wetland south of the application and a 40 metre buffer to the boundary of Lot 1 west and north of the application will be retained and rehabilitated with dieback tolerant canopy species as well as understorey species wherever possible. In addition the cleared area will be revegetated with native vegetation. These buffer areas will not be cleared and will contribute to maintaining associated ecological linkages (SJ Road Works 2012).

It is acknowledged that the applicant has reduced the amount of vegetation proposed to be cleared however it does not change the variance to this principle. The clearing as proposed is likely to degrade the integrity of the identified ecological linkages and therefore may impact upon the dispersal capabilities of avian fauna moving between nearby nature reserves.

Although the applicant has advised the application area will be rehabilitated with dieback tolerant native vegetation, the revegetation of a temporary land use site is considered to be in line with best management practices. Considering the lag time associated with restoring environmental values and the risk of failure, this will not mitigate the impacts to the linkage or to native fauna.

Therefore, the clearing as proposed may be at variance to this principle.

**Methodology**

References:

- SJ Road Works (2012)

GIS Database:

- DEC Tenure



**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

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

A Resource Enhancement sumpland (seasonally inundated basin) is mapped 50 metres south of the application area. Resource Enhancement wetlands are priority wetlands which have been partially modified but still retain substantial ecological attributes and functions (Water and Rivers Commission 2001). The applicant has advised a 50 metres buffer to the edge of the Resource Enhancement sumpland will be provided (SJ Road Works 2012).

The topography of the property gently slopes downwards towards the southern boundary of the application area. Given the end land use and the 50 metre buffer between the application area and Resource Enhancement wetland risks of increased runoff into this wetland is minimal.

A Multiple Use wetland is located approximately 60 metres north of the application area. Multiple Use Category wetlands have few important attributes and functions remaining (Water and Rivers Commission 2001). Given the degraded (Keighery, 1994) condition of the wetland and the distance from the application it is unlikely the clearing as proposed is unlikely to cause deterioration in the quality of surface water for this wetland.

The groundwater salinity within the application area is less than 1000-3000 milligrams per litre of Total Dissolved Solids (TDS). This level of groundwater salinity is considered to be brackish to moderately saline. The clearing of 10.7 hectares of vegetation in a completely degraded to Good (Keighery 1994) condition is not likely to have a significant impact on the quality of groundwater in the local area.

Given a 50 metre buffer has been provided to the Resource Enhancement wetland to the south and Multiple Use wetland to the north the clearing as proposed is not likely to cause deterioration in the quality of surface water. Therefore the clearing as proposed is not likely to be at variance to this principle.

**Methodology**

References:

- DEC (2012a)
- SJ Road Works (2012)
- Water and Rivers Commission (2001)

GIS Databases:

- Hydrology, linear
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Groundwater Salinity

**(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 proposed clearing is not expected to increase the incidence or intensity of flooding

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

**Methodology**



## Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

### Comments

- The proposal is to clear 10.7 hectares of native vegetation on Lot 1 on Diagram 43421, North Boyanup, for the purpose of sand extraction and once sand extraction activities finish the applicant plans to rehabilitate the entire application area to dieback tolerant native species.
- Mr Shayne Joynson submitted an application to clear 13.1 hectares on 10 May 2012 for the purpose of sand extraction.
- On 12 July 2012 the then DEC wrote to SJ Road Works to advise a number of environmental impacts had been identified including: poorly represented vegetation association, impacts to an ecological linkage, possible rare and priority flora may occur within the application area, impacts to significant fauna habitat, impacts to native vegetation associated with a resource enhancement wetland and impacts to a priority ecological community (PEC). DEC invited SJ Road Works to address the environmental issues raised during the assessment of the application, or alternatively to modify or withdraw Mr Joynson's application.
- On 20 December 2012 DEC received a response from SJ Road Works including a flora and fauna survey undertaken within Lot 1. SJ Road Works advised a 50 metre Buffer would be provided to the Resource Enhancement Wetland, and a buffer to the west and north of the application area would be retained reducing the application area by 2.7 hectares. SJ Road Works advised 4.42 hectares of the application area would be revegetated and the remaining 6.28 will be used as pasture. The flora survey determined no rare or priority flora are located within the application area.
- On 21 March 2013 DEC wrote to SJ Road Works to advise a number of environmental impacts were still outstanding including: poorly represented vegetation associations, impacts to an ecological linkage, impacts to significant fauna habitat and impacts to a PEC. DEC invited SJ Road Works to address the environmental issues raised during the assessment of the application, or alternatively to modify or withdraw Mr Joynson's application.
- SJ Road Works wrote to DER on 11 July 2013 to advise that the whole application area would now be revegetated and addressed issues identified in DEC's letter of 21 March 2013.
- The Shire of Capel (2012) has advised they have received an application for Planning Consent, however the outcome has not been determined. The Shire also noted that the Department of Agriculture and Food indicates that the soil types in this locality have poor fertility, poor water holding capacity, nutrient leaching issues and wind erosion potential in exposed environments (Shire of Capel, 2012).
- No Aboriginal Sites of Significance have been recorded within the application area.
- One submission (2012) was received regarding this application which raised concerns about fauna habitat, threatened and priority flora, wetlands, dieback and weed contamination and soil infertility. Where appropriate these concerns have been addressed under the relevant clearing principles.
- The application area falls within the Bunbury Groundwater Area under the Rights in Water Irrigation Act 1914. A Licence to Take ground water will be required from the Department of Water if ground water is to be abstracted. Supporting information supplied with the application states that all water will be supplied via an internal bore (TME, 2012)
- DoW (2012) has advised a desktop assessment shows that there are no internal drains that would provide a pathway to the Preston River. The Preston River is of sufficient distance from the proposed clearing area and land use and therefore there is a low risk of receiving surface water runoff from the application area. No surface water monitoring is required.
- A large proportion of the application area is infested with *Phytophthora cinnamomi* (dieback). If sand is extracted from this area and used on uninfested sites it could cause dieback to spread.

### Methodology

#### References:

- DoW (2012)
- Shire of Capel (2012)
- Submission (2012)
- TME (2012)

#### GIS Databases:

- Aboriginal Sites of Significance
- RIWI Act, Groundwater areas

## 4. References

DEC (2007 - ) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed 5 June 2012

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## 5. Glossary

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