



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

### PERMIT DETAILS

Area Permit Number: 4004/1

File Number: 2010/008027

Duration of Permit: From 17 January 2011 to 17 January 2016

### PERMIT HOLDER

Shire of Busselton

### LAND ON WHICH CLEARING IS TO BE DONE

Mewett Road Reserve, Quindalup

### AUTHORISED ACTIVITY

Clearing of up to 0.84 hectares of native vegetation within the area hatched yellow on attached Plan 4004/1a.

### CONDITIONS

#### 1. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 17 January 2013.

#### 2. Weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

#### 3. Revegetation and rehabilitation

(a) Within twelve months of clearing any area authorised under this Permit, the Permit Holder must *revegetate* and *rehabilitate* an area two times of that cleared within the area shaded red on attached Plan 4004/1b by:

- (i) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area; and
- (ii) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.

(b) Within twelve months of undertaking *revegetation* and *rehabilitation* in accordance with condition 3(a) of this Permit, the Permit Holder must:

- (i) determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
- (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 3(b)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the Permit Holder must undertake additional *planting* or *direct seeding* of native vegetation in accordance with the requirements of condition 3(a)(i) and (ii) of this Permit.

#### 4. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit.

- (a) In relation to the clearing of native vegetation authorised under this Permit:
  - (i) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (ii) the date that the area was cleared; and
  - (iii) the size of the area cleared (in hectares).
  
- (b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 3 of this Permit:
  - (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken; and
  - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares).

#### 5. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
  - (i) of records required under condition 4 of this Permit; and
  - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
  
- (b) Prior to 9 October 2014 the Permit Holder must provide to the CEO a written report of records required under condition 4 of this Permit where these records have not already been provided under condition 5(a) of this Permit.

#### DEFINITIONS

The following meanings are given to terms used in this Permit:

***direct seeding*** means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

***environmental specialist*** means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

***fill*** means material used to increase the ground level, or fill a hollow;

***local provenance*** means native vegetation seeds and propagating material from natural sources within 10 kilometres of the area cleared;

***mulch*** means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

***planting*** means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

***rehabilitate/ed/ion*** means actively managing an area containing native vegetation in order to improve the ecological function of that area;

*revegetate/ed/ion* means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area; and

*weed* means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.



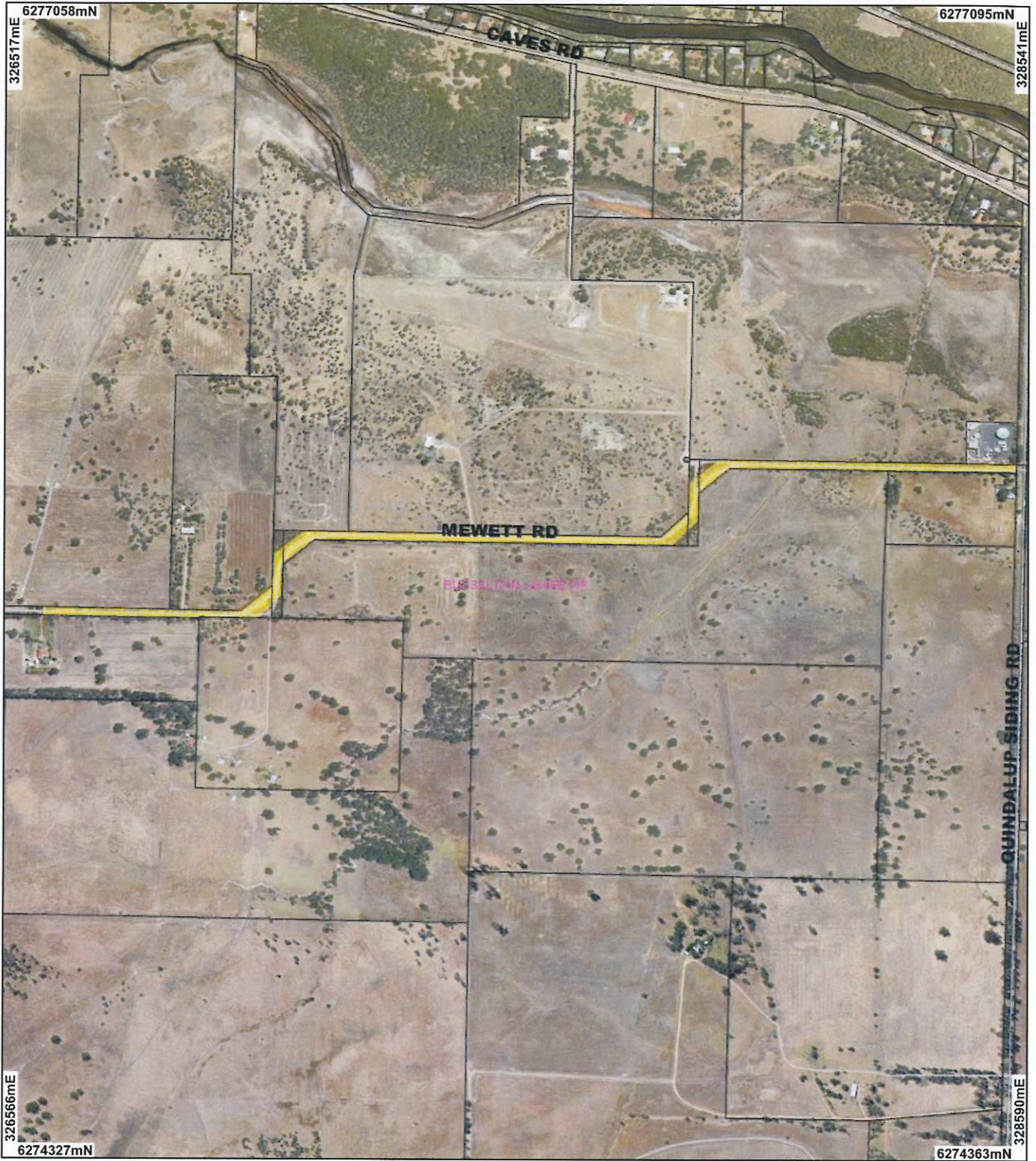
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Kelly Faulkner  
MANAGER  
NATIVE VEGETATION CONSERVATION BRANCH

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

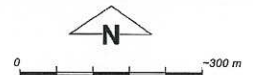
23 December 2010

# Plan 4004/1a



## LEGEND

- |  |  |
|--|--|
| <p><b>Clearing Instruments</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Areas Approved to Clear</li> <li><span style="display: inline-block; width: 10px; border-bottom: 1px solid black; margin-right: 5px;"></span> Road Centrelines</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Cadastre</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px dashed black; margin-right: 5px;"></span> Local Government Authorities</li> </ul> | <p><b>Busseton Townsite 20cm Orthomosaic - Landgate 2008</b></p> |
|--|--|



Scale 1:12000  
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

*K Faulkner* Date 23/12/10  
K Faulkner

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



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\* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.

# Plan 4004/1b



## LEGEND

- Clearing Instruments**
- Areas Subject to Conditions
  - Road Centrelines
  - Cadastre
  - Local Government Authorities

Busselton Townsite 20cm  
Orthomosaic - Landgate  
2008



Scale 1:15000  
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

*[Signature]*  
Date 23/12/0

K Faulkner  
Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



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## 1. Application details

### 1.1. Permit application details

Permit application No.: 4004/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Shire of Busselton

### 1.3. Property details

Property: ROAD RESERVE (QUINDALUP 6281)  
Local Government Area:  
Colloquial name: Mewett Road reserve

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.84		Mechanical Removal	Road construction or maintenance

### 1.5. Decision on application

Decision on Permit Application: Granted  
Decision Date: 23 December 2010

## 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 mapped as:</p> <p>Beard vegetation associations</p> <p>973 - Low forest; paperbark (<i>Melaleuca raphiophylla</i>)</p> <p>1008 - Medium open woodland; marri</p> <p>1136 - Medium woodland; marri with some jarrah, wandoo, river gum and casuarina (Hopkins et al 2001; Shepherd 2009)</p> <p>Mattiske Vegetation Complex Ludlow (Lw) - Open woodland of <i>Melaleuca raphiophylla</i> and sedgelands of <i>Cyperaceae-Restionaceae</i> spp. on broad depressions in the subhumid zone. (Mattiske and Havel 1998)</p>	<p>The clearing proposal is to clear 0.84 ha of native vegetation within a 4.5 ha area for the purpose of upgrading road infrastructure as part of a Black Spot program.</p> <p>Vegetation mapping outlines that the vegetation under application is predominantly associated with vegetation types Beard 973 and Mattiske Ludlow.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p> <p>to</p> <p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)</p>	<p>The vegetation condition was determined from aerial photography (Busselton 50cm Orthomosaic-Landgate 2007).</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 may be at variance to this Principle**

The vegetation under application is predominantly associated with vegetation types Beard 973 (Low forest; paperbark) and Mattiske Ludlow (Open woodland of *Melaleuca raphiophylla* and sedgelands of *Cyperaceae-Restionaceae* spp) (Hopkins et al 2001; Shepherd 2009; Mattiske and Havel 1998) and is considered to be in a degraded to very good (Keighery 1994) condition.

The vegetation under application is not considered to comprise or be necessary for the maintenance of a threatened ecological community or rare flora. However, the vegetation is considered to represent vegetation types that are highly cleared; therefore may comprise significant habitat values. In addition, the Busselton Plain Bioplan study recognises that the vegetation under application in the western section represents the highly cleared Quindalup Dune/ Pinjarra Plain Interface Wetland plant community (DEC 2010).

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

- Methodology**    **References:**
- DEC (2010)
  - Hopkins et al (2001)
  - Keighery (1994)
  - Matiske and Havel (1998)
  - Shepherd (2009)

**(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**

Five conservation significant fauna species are recorded within the local area (5 km radius), including Western Ringtail Possum (*Pseudocheirus occidentalis*), Dunsborough burrowing crustatian (*Engaewa reducta*), Quenda (*Isoodon obesulus fusciventer*), Western Brush Wallaby (*Macropus irma*) and Chuditch (*Dasyurus geoffroi*). The closest record is the Quenda, located approximately 1 km north of the application area.

The vegetation under application is predominantly associated with vegetation types Beard 973 (Low forest; paperbark) and Matiske Ludlow (Open woodland of *Melaleuca raphiophylla* and sedgelands of *Cyperaceae-Restionaceae* spp) (Hopkins et al 2001; Shepherd 2009; Matiske and Havel 1998) and is considered to be in a degraded to very good (Keighery 1994) condition.

The vegetation under application is associated with vegetation types that are highly cleared and is located within a road reserve that is part of an east-west corridor; therefore may comprise significant habitat values, including tree hollows, and is important in maintaining fauna movement and migration across the local landscape. In addition, aerial imagery of the local area shows limited native vegetation remaining with the local landscape considered to be extensively cleared.

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

- Methodology**    **References:**
- Hopkins et al (2001)
  - Keighery (1994)
  - Matiske and Havel (1998)
  - Shepherd (2009)
- GIS Databases:**
- Busselton 50cm Orthomosaic-Landgate 2007
  - SAC Bio datasets (7/10/2010)

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

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

There are three rare flora species, *Drakaea micrantha*, *Caladenia busselliana* and *Caladenia viridescens*, recorded in the local area (5 km radius) with the closest record being 2.7 km south of the area under application.

*Caladenia busselliana* and *Caladenia viridescens* are known to occur in marri woodlands and *Drakaea micrantha* in sheoak-jarrah woodlands or forests (Brown et al 1998).

The vegetation under application is predominantly associated with vegetation types Beard 973 (Low forest; paperbark) and Matiske Ludlow (Open woodland of *Melaleuca raphiophylla* and sedgelands of *Cyperaceae-Restionaceae* spp) (Hopkins et al 2001; Shepherd 2009; Matiske and Havel 1998) in a degraded to very good (Keighery 1994) condition.

Given the above, it is considered the vegetation under application is not likely to comprise suitable habitat for rare flora. Therefore, the proposed clearing is not likely to be at variance to this Principle.

- Methodology**    **References:**
- Brown et al (1998)
  - Hopkins et al (2001)
  - Keighery (1994)
  - Matiske and Havel (1998)
  - Shepherd (2009)
- GIS Database:**
- SAC Bio datasets (7/10/2010)

**(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**

One threatened ecological community (TEC), being Swan Coastal Plain 1b: Southern Eucalyptus calophylla woodlands on heavy soils occurs within the local area. The closest record is approximately 2.4 km north of the area under application.

The vegetation under application is predominantly associated with vegetation types Beard 973 (Low forest; paperbark) and Mattiske Ludlow (Open woodland of Melaleuca raphiophylla and sedgelands of Cyperaceae-Restionaceae spp) (Hopkins et al 2001; Shepherd 2009; Mattiske and Havel 1998) in a degraded to very good (Keighery 1994) condition.

Given the above, the vegetation under application is not likely to comprise or be necessary for the maintenance of this TEC. Therefore, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

References:

- Hopkins et al (2001)
- Keighery (1994)
- Mattiske and Havel (1998)
- Shepherd (2009)

GIS Database:

- SAC Bio datasets (7/10/2010)

**(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 vegetation under application is described as Beard vegetation association 973, 1008 and 1136 of which there is 22.4%, 26.1% and 7.9% of pre-1750 extent remaining within the bioregion, respectively (Shepherd 2009). The vegetation is also described as Mattiske vegetation Complex Ludlow of which there is 3.1% of pre-European extent remaining (Mattiske and Havel 1998).

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 mapped vegetation types associated with the vegetation under application retain less than the 30% threshold level. In addition, the Busselton Plain Bioplan study recognises that the vegetation under application in the western section represents the highly cleared Quindalup Dune/ Pinjarra Plain Interface Wetland plant community (DEC 2010).

Aerial imagery of the local area (5 km radius) shows limited native vegetation remaining, with the local landscape considered to be extensively cleared. The vegetation under application is within a road reserve that is part of an east-west corridor to areas of remnant vegetation, which is important in maintaining fauna movement and migration across the local landscape.

Given the vegetation under application is located within an extensively cleared local landscape, is associated with vegetation types that are highly cleared and may comprise significant fauna habitat values; it is considered the proposed clearing is at variance to this Principle. A revegetation condition would mitigate the loss of vegetation in a highly cleared landscape.

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregion			
Swan Coastal Plain*	1,501,209	587,889	39.1
Shire of Busselton*	146,478	62,783	42.8
Beard types in Bioregion*			
973	2,510	564	22.4
1008	4,560	1,193	26.1
1136	48,118	3,838	7.9
Mattiske Complex**			
Ludlow (Lw)	186.6	5.9	3.1

\* (Shepherd 2009)

\*\* (Mattiske and Havel 1998)

**Methodology**

References:



- Commonwealth of Australia (2001)
  - DEC (2010)
  - Mattiske and Havel (1998)
  - Shepherd (2009)
- GIS Databases:
- Busselton 50cm Orthomosaic-Landgate 2007
  - Pre-European Vegetation
  - Interim Biogeographic Regionalisation of Australia

**(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 at variance to this Principle**

The proposed clearing is approximately 1 to 2 km south of the coastline and is located within a multiple use wetland (Paulisplain), in an area subject to inundation. In addition, the vegetation under application is predominantly associated with vegetation types Beard 973 (Low forest; paperbark) and Mattiske Ludlow (Open woodland of *Melaleuca raphiophylla* and sedgelands of *Cyperaceae-Restionaceae* spp) (Hopkins et al 2001; Shepherd 2009; Mattiske and Havel 1998).

Given this, the proposed clearing is at variance to this Principle.

**Methodology References:**

- Hopkins et al (2001)
  - Mattiske and Havel (1998)
  - Shepherd (2009)
- GIS Databases:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
  - Hydrography, linear

**(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 chief soils of the area under application are acid earths, leached sands and small areas of ironstone gravels (Northcote et al 1960-68). These soils are at risk of water and wind erosion.

Given the long and linear nature of the clearing and the limited clearing (0.84 ha), it is considered that the proposed clearing is not likely to result in appreciable land degradation. Therefore the clearing as proposed is not likely to be at variance to this Principle.

**Methodology Reference:**

- Northcote et al (1960-68)
- 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 is not likely to be at variance to this Principle**

The closest conservation area to the area under application is Leeuwin-Naturaliste National Park, which occurs 7 km west of the application area.

Given the distance to the nearest conservation area, the proposed clearing is not likely to be at variance to this Principle.

**Methodology GIS Databases:**

- DEC Tenure
- Busselton 50cm Orthomosaic - Landgate 2007

**(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 is approximately 1 to 2 km south of the coastline and is located within a multiple use wetland (Paulisplain), in an area subject to inundation.

Given the long and linear nature of the clearing and the limited vegetation to be cleared (0.84 ha), it is considered that the proposed clearing is not likely to cause deterioration in the quality of surface or ground

water. Therefore the clearing as proposed is not likely to be at variance to this Principle.

**Methodology** GIS Databases:  
-Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain  
-Hydrography, linear

**(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 approximately 1 to 2 km south of the coastline and is located within a multiple use wetland (Paulisplain), in an area subject to inundation.

The proposed clearing is not likely to cause or exacerbate flooding given the long and linear nature of the clearing and the limited vegetation (0.84 ha) proposed to be cleared.

**Methodology** GIS Databases:  
-Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain  
-Hydrography, linear

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

**Comments**  
The proposal is to clear 0.84 ha of native vegetation within a 4.5 ha area for the purpose of upgrading road infrastructure as part of a Black Spot program. The applicant has advised the areas under application containing the Quindalup Dune/ Pinjarra Plain Interface Wetland plant community need to be upgraded for safety reasons; the clearing will be limited to 1.5 m wide at the bends, to straighten the bends, and to 0.5 m wide on the southern side of the western section of the road (DEC 2010a).

The Shire of Busselton (2010) has proposed revegetating the adjacent road reserves of Mewett Road and Quindalup Siding Road, at a 2 for 1 ratio to the area of vegetation cleared, to offset the proposed clearing along Mewett Road.

The Roadside Conservation Committee (2010) advised that the roadside conservation values of Mewett Road have not been mapped and have no objection to the proposal as it is a Black Spot funded project.

The area under application is zoned as road reserve under the local Town Planning Scheme.

**Methodology** References:  
- DEC (2010a)  
- Roadside Conservation Committee (2010)  
- Shire of Busselton (2010)  
GIS Database:  
- Town Planning Scheme Zones

**4. References**

Brown A., Thomson-Dans C. and Marchant N. (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

DEC (2010) DEC Regional Advice for Clearing Application CPS 4004/1, Department of Environment and Conservation, Western Australia. DEC Ref A343367

DEC (2010a) Discussion between Native Vegetation Conservation Branch and Shire of Busselton (File Note). DEC Ref A343450

Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.

Roadside Conservation Committee (2010) Direct Interest Submission from Roadside Conservation Committee. DEC Ref A338832

Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

## 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)