



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

| | |
|-------------------------------|-----------------------------|
| Purpose permit number: | CPS 1743/5 |
| Permit holder: | Shire of Busselton |
| Duration of permit: | 29 July 2007 – 29 July 2012 |

The permit holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of road upgrades.

2. Land on which clearing is to be done

- Abbeys Farm Rd SLK 4.80-7.65
- Adams Rd SLK 5.00-7.30
- Ambergate Rd SLK 6.70-7.43
- Bussell Hwy SLK 6.50-6.70
- Champion Way SLK 0.00-0.59
- Cape Naturaliste Rd SLK 1.50-1.65
- Carter Rd SLK 0.00-1.85
- Chambers Rd SLK 0.80-5.53
- Chapman Hill East SLK 0.30-1.10
- Chapman Hill Rd SLK 20.10-20.29
- Chugg Rd SLK 1.00-2.26
- Coley Rd SLK 0.00-0.59
- Doyle Rd SLK 0.00-4.90
- Farquhar Rd SLK 0.00-1.00
- Fish Rd SLK 0.00-1.00
- Florence Rd SLK 0.30-1.00
- Forrest Beach Rd SLK 4.20-5.20
- Franklin Rd SLK 0.00-0.80
- Gale Rd SLK 2.47-4.10
- Gale Rd SLK 9.87-10.85
- Geographe Bay Rd SLK 0.00-1.95
- Geographe Bay Rd SLK 5.10-6.10
- Giles Rd SLK 0.00-0.50
- Goulden Rd SLK 0.00-0.51
- Haag Rd SLK 0.00-1.64
- Hairpin Rd SLK 0.00-2.70
- Hanaby Rd SLK 0.00-0.68
- Harman's Mill Rd SLK 1.40-6.60
- Heath Rd SLK 0.00-0.50
- Hopkins Rd SLK 0.50-1.50
- Jamison Rd SLK 0.00-1.20
- Jindong Treeton Rd SLK 2.40-3.20
- Jindong Treeton Rd SLK 3.72-7.30
- Johnson Rd SLK 0.34-2.60

- Kaloorup Rd SLK 3.30-4.20
- Kaloorup Rd SLK 4.90-5.20
- Kaloorup Rd SLK 7.50-7.70
- Kaloorup Rd SLK 11.85-13.80
- Lindberg Rd SLK 1.00-2.00
- Ludlow Hithergreen Rd SLK 4.14-4.34
- Ludlow Hithergreen Rd SLK 15.68-15.73
- Ludlow Hithergreen Rd SLK 15.73-16.16
- Ludlow Hithergreen Rd SLK 16.16-16.90
- Marybrook Rd SLK 1.00-1.50
- Mewitt Rd SLK 0.00-2.21
- North Jindong Rd SLK 1.80-2.96
- North Jindong Rd SLK 5.50-6.40
- North Jindong Treeton Rd SLK 2.96-6.40
- Payne Rd SLK 0.00-2.44
- Pearce Rd SLK 0.20-0.75
- Price Rd SLK 0.00-2.00
- Puzey Rd SLK 0.51-3.40
- Puzey Rd SLK 3.60-5.20
- Queen Elizabeth Avenue SLK 6.66-6.88
- Reilly Rd SLK 0.00-0.59
- Ruabon Rd SLK 0.00-0.72
- Semmens Rd SLK 0.00-1.47
- Sheens Rd SLK 0.00-0.54
- Sidebottom Rd SLK 0.60-3.42
- Simpson Rd SLK 0.00-2.00
- Tutunup Rd SLK 0.00-2.25
- Tutunup Rd SLK 3.00-7.90
- Vasse Hwy SLK 13.65-14.45
- Vasse Yallingup Siding Rd SLK 6.36-7.73
- Vasse Yallingup Siding Rd SLK 7.70-7.80
- Wallsall Rd SLK 1.60-3.34
- Wells Rd SLK 0.00-0.50
- Williams Rd SLK 0.00-1.00
- Yelverton Rd SLK 0.00-2.00
- Yelverton Rd SLK 6.20-10.12
- Lot 2 on Diagram 57253

3. Area of Clearing

The permit holder must not clear more than 18.82 hectares of native vegetation.

4. Application

This Permit allows the permit holder to authorise persons, including employees, contractors and agents of the permit holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of Clearing Authorised

This Permit authorises the permit holder to clear native vegetation for activities to the extent that the permit holder has the power to clear native vegetation for those activities under the *Local Government Act 1995* or any other written law.

6. Compliance with Assessment Sequence and Management Procedures

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the permit holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared for the purpose of road upgrades, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

8. Dieback and weed control

- (a) When undertaking any clearing, or other activity pursuant to this Permit the Permit Holder must take the following steps to minimise the risk of introduction and spread of *dieback*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) avoid the movement of soil in wet conditions;
 - (iii) ensure that no *dieback*-affected *road building materials, mulch* or *fill* are brought into an area that is not affected by *dieback*; and
 - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) When undertaking any clearing, or other activity pursuant to this Permit the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) ensure that no *weed*-affected *road building materials, mulch, fill* or other material is brought into the area to be cleared; and
 - (iii) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

9. Flora Management

- (a) Prior to undertaking any clearing within the areas described below, the areas shall be inspected by a *flora specialist* who shall identify Rare Flora and *Priority Flora taxa*:
 - (i) Abbeys Farm Rd (SLK 4.80-7.65)
 - (ii) Doyle Rd (SLK 0.00 - 4.90)
 - (iii) Fish Rd (SLK 0.00 - 1.00)
 - (iv) Gale Rd (SLK 9.87 - 10.85)
 - (v) Jindong-Treeton Rd (SLK 4.80 - 5.65, 2.40 - 3.20)
 - (vi) Kaloorup Rd (SLK 3.30 - 3.77)
 - (vii) Ludlow – Hithergreen Rd (SLK15.68 - 15.73, 15.73-16.16, 16.16 - 16.90)
 - (viii) Payne Rd SLK (SLK 0.00-2.44)
 - (ix) Price Rd SLK 0.00 - 2.00)
 - (x) Ruabon Rd (SKL 0.00 - 0.72)
 - (xi) Semmens Rd (SLK 0.00 - 1.47)
 - (xii) Tutunup Rd (SLK 4.10 - 4.60; 0.00 - 2.25; 3.00 - 4.10; 4.60 - 7.90)
- (b) Where Rare Flora or *Priority Flora taxa* are identified in relation to condition 9(a) the Permit Holder shall ensure that:
 - (i) All records of Rare flora and *priority flora taxa* are submitted to the CEO;
 - (ii) No clearing occurs within 50m of identified Rare flora, unless approved by the CEO; and
 - (iii) No clearing occurs with 10m of identified *Priority Flora taxa*, unless approved by the CEO.

10. Fauna Management

- (a) Prior to clearing within the areas described in condition 2, the areas shall be inspected by a *fauna specialist* who shall identify fauna habitat suitable to be utilised by fauna species listed below:
 - (i) Western Ringtail Possum *Pseudocheirus occidentalis*
 - (ii) Baudin's Black-Cockatoo *Calyptorhynchus baudinii*
 - (iii) Carnaby's Black-Cockatoo *Calyptorhynchus latirostris*
 - (iv) Forest Red-tailed Black-Cockatoo *Calyptorhynchus banksii naso*
- (b) Prior to clearing, any habitat identified by condition 10(a) shall be inspected by a *fauna specialist* for the presence of fauna.

- (c) Prior to clearing the Permit Holder shall ensure that any fauna identified in condition 10(b) shall be removed and relocated by a *fauna clearing person*, in accordance with a licence issued by the Department of Environment and Conservation.

11. Threatened Ecological Community Management

- (a) Prior to undertaking any clearing within the areas below, the areas shall be inspected by an *environmental specialist* who shall identify Threatened Ecological Communities:
 - (i) Chambers Rd (SLK 0.80 - 5.53)
 - (ii) Fish Rd (SLK 0.00 - 1.00)
 - (iii) Jindong-Treeton Rd (SLK 2.40 - 3.20, 3.72 - 4.80)
 - (iv) Payne Rd (SLK 0.00 - 2.44)
 - (v) Price Rd (SLK 0.00 - 2.00)
 - (vi) Ruabon Rd (SLK 0.00 - 0.72)
 - (vii) Tutunup Rd (SLK 4.10 - 4.60; 0.00 - 2.25; 4.60 - 7.90)
- (b) Where Threatened Ecological Communities are identified in relation to condition 11(a) the Permit Holder shall ensure that:
 - (i) All records of Threatened Ecological Communities are submitted to the CEO; and
 - (ii) No clearing occurs with 50m of identified Threatened Ecological Communities, unless approved by the CEO.

12. Offsets

- (a) Determination of *offsets*
 - (i) If part or all of the clearing to be done is or may be at variance with one or more of the clearing principles, then the permit holder must implement an *offset* in accordance with Conditions 12(a) and 12(b) of this Permit with respect to that native vegetation.
 - (ii) In determining the *offset* to be implemented with respect to a particular area of native vegetation proposed to be cleared under this Permit, the permit holder must have regard to the *offset* principles contained in condition 12(b) of this Permit.
 - (iii) Once the permit holder has developed an *offset* proposal, the permit holder must provide that *offset* proposal to the CEO for the CEO's approval prior to undertaking any clearing to which the *offset* relates, and prior to implementing the *offset*.
 - (iv) Clearing may not commence until and unless the CEO has approved the *offset* proposal.
 - (v) The permit holder shall implement the *offset* proposal approved under condition 12(a)(iii).
 - (vi) Each *offset* proposal shall include a *direct offset*, timing for implementation of the *offset* proposal and may additionally include *contributing offsets*.
- (b) *Offset* principles
For the purpose of this Part, the *offset* principles are as follows:
 - (i) *direct offsets* should directly counterbalance the loss of the native vegetation;
 - (ii) *contributing offsets* should complement and enhance the *direct offset*;
 - (iii) *offsets* are implemented only once all avenues to avoid, minimise, rectify or reduce environmental impacts have been exhausted;
 - (iv) the environmental values, habitat, species, ecological community, physical area, ecosystem, landscape, and hydrology of the *offset* should be the same as, or better than, that of the area of native vegetation being *offset*;
 - (v) a ratio greater than 1:1 should be applied to the size of the area of native vegetation that is *offset* to compensate for the risk that the *offset* may fail;
 - (vi) *offsets* must entail a robust and consistent assessment process;
 - (vii) in determining an appropriate *offset*, consideration should be given to ecosystem function, rarity and type of *ecological community*, *vegetation condition*, habitat quality and area of native vegetation cleared;
 - (viii) the *offset* should either result in no net loss of native vegetation, or lead to a net gain in native vegetation and improve the condition of the natural environment;
 - (ix) *offsets* must satisfy all statutory requirements;
 - (x) *offsets* must be clearly defined, documented and audited;
 - (xi) *offsets* must ensure a long-term (10-30 year) benefit; and
 - (xii) an *environmental specialist* must be involved in the design, assessment and monitoring of *offsets*.

PART III - RECORD KEEPING AND REPORTING

13. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, as relevant:

- (a) In relation to the clearing of native vegetation undertaken pursuant to the purpose of clearing:
 - (i) the species composition, structure and density of the cleared area;
 - (ii) 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;
 - (iii) the date that the area was cleared; and
 - (iv) the size of the area cleared (in hectares).
- (b) In relation to Flora Management pursuant to condition 9:
 - (i) the location of each Rare Flora and *Priority Flora* taxa recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; and
 - (ii) the species of each Rare Flora or *Priority Flora taxa* identified.
- (c) In relation to Fauna Management pursuant to condition 10:
 - (i) the location of any habitat tree identified 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 species of any habitat tree identified;
 - (iii) the species of fauna reasonably likely to utilise, or that have been observed utilising habitat;
 - (iv) the species and number of each species relocated;
 - (v) a description of the relocation activities; and
 - (vi) the location and date where relocated fauna was released, using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.
- (d) In relation to Threatened Ecological Community Management pursuant to condition 11:
 - (i) the location of each Threatened Ecological Community recorded recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; and
 - (ii) the name of each Threatened Ecological Community identified.
- (e) In relation to the *offsets* of areas pursuant to condition 12:
 - (i) the location of any area of *offsets* 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 *offset* activities undertaken; and
 - (iii) the size of the *offset* area (in hectares).

14. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 31 December of each year, a written report of records required under condition 13 and activities done by the Permit Holder under this Permit between 1 July of the preceding year and 30 June of the current year.
- (b) Prior to 29 April 2012, the Permit Holder must provide to the CEO a written report of records required under condition 13 where these records have not already been provided under condition 14(a).

Definitions

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

condition means the rating given to native vegetation using the *Keighery scale* and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

contributing offsets has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9 Environmental Offsets*, January 2006;

dieback means the effect of *Phytophthora* species on native vegetation;

direct offsets has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9 Environmental Offsets*, January 2006;

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;

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

fauna clearing person means a person who has obtained a licence from the Department of Conservation and Land Management, issued pursuant to the *Wildlife Conservation Regulations 1970* (as amended) authorising them to take fauna in order to carry out the approved clearing associated with this permit;

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

flora specialist means a person with specific training and/or experience in the ecology and taxonomy of Western Australian flora;

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;

offset/s means an offset required to be implemented under this Permit;

Priority Flora taxa means those plant taxa that described as priority flora classes 1, 2, 3 or 4 in the *Declared Rare and Priority Flora List for Western Australia*, Department of Conservation and Land Management, as amended;

road building materials means rock, gravel, soil, stone, timber, boulders and water;

term means the duration of this Permit, including as amended or renewed;

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.



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

31 March 2011



1. Application details

1.1. Permit application details

Permit application No.: 1743/5
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Busselton

1.3. Property details

Property: ROAD RESERVE (HITHERGREEN 6280)
ROAD RESERVE (HITHERGREEN 6280)
ROAD RESERVE (HITHERGREEN 6280)
ROAD RESERVE (SABINA RIVER 6280)
ROAD RESERVE (WILYABRUP 6280)
ROAD RESERVE (WILYABRUP 6280)
ROAD RESERVE (JINDONG 6280)

Local Government Area:

Colloquial name:

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|----------------------------------|
| 0.091 | | Mechanical Removal | Road construction or maintenance |
| 18.73 | | Mechanical Removal | Road construction or maintenance |

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 31 March 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

| Vegetation Description | Clearing Description | Vegetation Condition | Comment |
|---|---|--|--|
| Beard Vegetation Associations: | | | |
| 3 Medium forest; jarrah-marri | The areas under application are for the purpose of road widening. Much of the proposed clearing will be undertaken in table drains within existing road reserves. Other roadside areas proposed to be cleared are the result of increased traffic due to tourist attractions and subdivisional development. Aerial photography, site inspection report (DEC 2009) and photographs supplied by the Shire of Busselton suggest that the vegetation condition of the areas to be cleared range from completely degraded to excellent (Keighery, 1994). | Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994) | Vegetation condition was determined from aerial photos (Busselton 50cm Orthomosaic - DLI 04), Site Inspection Report (DEC 2009) and photographs of proposed clearing sites supplied by the Shire of Busselton. |
| 27 Low woodland; paperbark (Melaleuca sp.) | | | |
| 37 Shrublands; teatree thicket | | | |
| 676 Succulent steppe; samphire | | | |
| 949 Low woodland; banksia | | | |
| 973 Low forest; paperbark (Melaleuca raphiophylla) | | | |
| 990 Low forest: peppermint (Agonis flexuosa) | | | |
| 1000 Mosaic: Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree (Melaleuca spp.) | | | |
| 1136 Medium woodland; marri with some jarrah, wandoo, river gum and casuarina | | | |
| 1181 Medium woodland, jarrah & Eucalyptus haematoxylon (Whicher Range) | | | |

Mattiske Vegetation Complexes:

Abba (AB) Woodland and open forest of *Corymbia calophylla* on flats and low rises in the humid zone.

Abba (Ad) Woodland of *Corymbia calophylla*-*Agonis flexuosa*-*Allocasuarina fraseriana*-*Nuytsia floribunda* on mild slopes in the humid zone.

Abba (AF) Woodland of *Corymbia calophylla*-*Agonis flexuosa* and tall shrubland of *Myrtaceae*-*Proteaceae* spp. on terraces and valley floors in the humid zone.

Abba (Af) Open forest of *Corymbia calophylla*-*Agonis flexuosa*-*Acacia saligna* on lower slopes in the humid zone.

Abba (Aw) Mosaic of tall shrubland of *Melaleuca viminea* and woodland of *Eucalyptus rudis*-*Melaleuca raphiophylla* with occasional *Corymbia calophylla* on broad depr

Cowaramup (Cd) Woodland of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Banksia ilicifolia* on sandy rises and low woodland of *Melaleuca preissiana* on lower slopes in the hyperhumid to humid zones.

Cowaramup (C2) Open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Banksia grandis* on lateritic uplands in perhumid and humid zones.

Cowaramup (Cw2) Woodland of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* on slopes and low woodland of *Melaleuca preissiana*-24 *Banksia littoralis* on depressions in perhumid and humid zones.

Ludlow (Lw) Open woodland of *Melaleuca raphiophylla* and sedgelands of *Cyperaceae*-*Restionaceae* spp. on broad depressions in the subhumid zone.

Preston (PR) Woodland of *Eucalyptus rudis*-*Agonis flexuosa*-*Banksia seminuda* along streams, open forest of *Corymbia calophylla*-*Eucalyptus patens* on slopes in the humi

QD no information

Treeton (T) Woodland of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* with some *Allocasuarina fraseriana* on mild slopes in the perhumid zone.

Treeton (Tw) Open forest of *Eucalyptus patens*-*Corymbia calophylla*-*Eucalyptus marginata* subsp. *marginata* on lower slopes and on floors of minor valleys in the perhumid zone.

Wilyabrup (W2) Open forest of *Corymbia calophylla*-*Allocasuarina decussata*-*Agonis flexuosa* on deeply incised valleys in perhumid and humid zones.

Wilyabrup (Ww2) Tall open forest of *Corymbia calophylla*-*Agonis flexuosa* on flats and valleys in perhumid and humid ones.

Yelverton (Y) Woodland of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Allocasuarina fraseriana*-*Agonis flexuosas*²⁴ and open woodland of *Corymbia calophylla* on low undulating uplands in the humid zone.

Yelverton (Yd) Woodland of *Allocasuarina fraseriana*-*Eucalyptus marginata* subsp. *marginata*-*Xylomelum occidentale*-*Banksia attenuata* on sandy slopes in the humid zone.

Yelverton (Yw) Woodland of *Allocasuarina fraseriana*-*Nuytsia floribunda*-*Agonis flexuosa*-*Banksia attenuata* on slopes and open forest of *Corymbia calophylla*-

Eucalyptus patens-Eucalyptus marginata subsp. marginata on the lower slopes and woodland of Eucalyptus rudis-Melaleuca raphiophylla on valley floors in the humid zone.

Hedde Vegetation Complex: Abba Open forest and woodland.

| | | | |
|----------|----------|--|----------|
| As above | As above | Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) | As above |
| As above | As above | Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994) | As above |
| As above | As above | Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994) | As above |
| As above | As above | Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994) | As above |

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 Shire of Busselton has submitted an amendment to their clearing application to increase the total clearing area by 0.0.0912 hectares to include an 1 additional section of Ludlow Hithergreen Road at SLK 15.73- 16.16 and to widen the clearing area along this road from 12m to 17m along:

- SLK 15.68 to 15.73
- SLK 16.16 to 16.90
- SLK 13.65 to 14.45

Photographs and site inspections of the application areas show that the vegetation proposed to be cleared ranges in condition from completely degraded to excellent (Keighery 1994, DEC 2009). The Shire of Busselton has been heavily cleared in parts, resulting in areas of vegetation that are highly fragmented and poorly represented. Within a highly cleared landscape, the roadside vegetation under application may comprise a high level of biological diversity relevant to surrounding areas. Given the above, the proposal may be at variance to this principle.

To mitigate any potential impacts from the clearing of remnant vegetation, the proposed clearing will be carried out in accordance with a condition imposed on the permit requiring that clearing of vegetation be avoided, and where this is not possible, minimised. In addition, to address the loss of vegetation within a highly cleared landscape, offset conditions will be imposed on the permit.

The Shire of Busselton lies within a Phytophthora disease risk area, and some of the road verges within the application areas are weed infested. Weed and Dieback conditions have been included in the permit to minimise the spread of identified weeds and dieback.

Methodology DEC (2009)
Keighery (1994)

GIS Database:

- SAC Biodatasets - accessed 22 July 09
- Mattiske Vegetation (01/03/1998)
- Hedde Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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

Photographs and site inspection of the application areas show that many of the road reserves under application appear to contain good quality habitat trees (DEC 2009). The Shire of Busselton has been heavily cleared in parts, resulting in areas of vegetation that are highly fragmented and poorly represented. In these areas, roadside vegetation plays a significant role as habitat, refuge and as wildlife corridors for local fauna populations. Therefore the proposed clearing may provide a significant habitat for indigenous fauna.

Records of Western Ringtail Possum (Declared threatened: Vulnerable) have been mapped in the vicinity of Champion Way, Geographe Bay Road, Sheens Rd and Bussell Highway. Additionally, Heath Road and Kaloorup Road reserves contain potential habitat for Western Ringtail Possums. In their application to clear native vegetation, the Shire of Busselton has documented the presence of Western Ringtail Possum and noted that management of these threatened species will include the avoidance of trees that may provide significant habitat.

Given that much of the Shire of Busselton has been highly cleared, and that some of the vegetation associations within the Shire are poorly represented, the proposal may be at variance to this Principle.

A condition has been placed on the permit requiring that the clearing of native vegetation be avoided, and where this is not possible, minimised. To mitigate any loss of habitat within the areas proposed to be cleared, conditions will be placed on the permit to ensure that potential habitat trees for specially protected fauna under the Wildlife Conservation Act are inspected by a fauna specialist prior to clearing and, where applicable, translocation of fauna is undertaken.

Methodology DEC (2009)

GIS Database:

- Busselton 50cm Orthomosaic - DLI 04
- CALM Managed Lands and Waters - CALM 01/06/05
- Matiske Vegetation (01/03/1998)
- SAC Biodatasets - accessed 22 July 09
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06

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

Comments Proposal may be at variance to this Principle

A considerable number of known records of Declared Rare and Priority Flora are associated with the proposed clearing for road maintenance and widening. Roads with possible impacts on protected flora are listed below:

- Payne Rd (SLK 0.00 - 2.44)
- Abbeys Farm Rd (SLK 4.80 - 5.20)
- Doyle Rd (SLK 0.00 - 4.90)
- Kaloorup Rd (SLK 3.30 - 3.77)
- Tutunup Rd (SLK 4.10 - 4.60; 0.00 - 2.25; 3.00 - 4.10; 4.60 - 7.90)
- Jindong-Treeton Rd (SLK 4.80 - 5.65; 2.40 - 3.20)
- Price Rd SLK 0.00 - 2.00)
- Fish Rd (SLK 0.00 - 1.00)
- Semmens Rd (SLK 0.00 - 1.47)
- Gale Rd (SLK 9.87 - 10.85)
- Ruabon Rd (SKL 0.00 - 0.72)

Given the number of Rare and Priority Flora within or in close proximity to the areas proposed to be cleared, the proposal may be at variance with this principle.

To ensure all rare and priority species are identified and managed accordingly, a condition will be placed on the permit to ensure surveys are undertaken by a flora specialist to identify the presence of any DRF or priority species within proposed clearing sites associated with the roads listed above. Where DRF species are identified the Shire will be required to submit the records to the Department of Environment and Conservation ensuring no species are removed unless approved by the CEO.

Methodology GIS Database:

- Matiske Vegetation (01/03/1998)
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 22 July 09

(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 may be at variance to this Principle

A number of known records of Threatened Ecological Communities (TEC) occur within close proximity to the areas proposed to be cleared. Roads included in the clearing application that may impact on TECs are listed below:

- Payne Rd (SLK 0.00 - 2.44)
- Tutunup Rd (SLK 4.10 - 4.60; 0.00 - 2.25; 4.60 - 7.90)
- Fish Rd (SLK 0.00 - 1.00)
- Price Rd (SLK 0.00 - 2.00)
- Chambers Rd (SLK 0.80 - 5.53)
- Jindong-Treeton Rd (SLK 2.40 - 3.20, 3.72 - 4.80)
- Ruabon Rd (SLK 0.00 - 0.72)

Given the proximity of the TECs to the areas proposed to be cleared, and that many of the identified TECs are associated with Swan Coastal Plain Ironstones and listed as 'Endangered' under EPBC Act 1999, the proposal may be at variance to this principle.

To ensure all TECs are identified and managed accordingly, a condition will be placed on the permit to ensure surveys are undertaken by an environmental specialist prior to clearing. The Shire will be required to submit a report to the Department of Environment and Conservation and is not permitted to clear this area unless approved by the CEO.

Methodology GIS Database:

- SAC Biodatasets - accessed 22 July 09
- Mattiske Vegetation (01/03/1998)
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Soils, Statewide DA 11/99

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

Comments Proposal is at variance to this Principle

The proposed clearing occurs within the Jarrah Forest, Warren and Swan Coastal Plain IBRA Regions, where the area of vegetation remaining is 55.8%, 84.8% and 39.16% respectively (Shepherd, 2009). Within the Shire of Busselton 42.86% of pre-European vegetation remains (Shepherd 2009). As illustrated in the following tables, a number of the vegetation complexes within these regions are poorly represented and occur in a landscape that has been highly cleared.

| | Pre-European (ha) | Current extent (ha) | Remaining (%) | Pre-European % in reserves/DEC managed lands ** |
|-------------------------------------|----------------------|------------------------|------------------|---|
| BIOREGIONS | | | | |
| Warren (WAR) | 833981 | 667164 | 80.00 | 67.98 |
| Jarrah Forest (JF) | 4506656 | 2514549 | 55.80 | 39.22 |
| Swan Coastal Plain (SCP) | 1501209 | 587889 | 39.16 | 16.00 |
| LOCAL GOVERNMENT AUTHORITIES | | | | |
| Shire of Busselton | 146478 | 62783 | 42.86 | 30.90 |
| VEGETATION ASSOCIATIONS | | | | |
| Beard association: 3* | | | | |
| - in WAR bioregion | 252 196 | 204 295 | 81.01 | 69.60 |
| - in JF bioregion | 2 390 590 | 1 657 274 | 69.32 | 57.55 |
| - in SCP bioregion | 17 364 | 3 154 | 18.17 | 2.30 |
| Beard association: 27* | | | | |

| | | | | |
|--------------------------|---------|---------|-------|-------|
| - in WAR bioregion | 70 203 | 53 458 | 76.15 | 67.46 |
| - in JF bioregion | 49 877 | 38 298 | 76.78 | 59.88 |
| - in SCP bioregion | 5 836 | 1 727 | 29.59 | 13.42 |
| Beard association: 37* | | | | |
| - in WAR bioregion | 958 | 887 | 92.61 | 60.38 |
| - in JF bioregion | 2 492 | 1 829 | 73.40 | 54.75 |
| - in SCP bioregion | 15 704 | 4 894 | 31.17 | 14.19 |
| Beard association: 676* | | | | |
| - in SCP bioregion | 1 255 | 191 | 15.24 | 1.18 |
| Beard association: 949* | | | | |
| - in WAR bioregion | 1 734 | 1 068 | 61.57 | 43.64 |
| - in JF bioregion | 1 462 | 447 | 30.60 | 2.29 |
| - in SCP bioregion | 209 984 | 122 678 | 58.42 | 39.26 |
| Beard association: 973* | | | | |
| - in WAR bioregion | 29 | 9 | 31.05 | 12.87 |
| - in JF bioregion | 2 448 | 1 549 | 63.28 | 4.58 |
| - in SCP bioregion | 2 511 | 347 | 13.84 | 7.38 |
| Beard association: 990* | | | | |
| - in WAR bioregion | 15 023 | 13 355 | 88.90 | 67.78 |
| - in JF bioregion | 387 | 304 | 78.64 | 26.75 |
| - in SCP bioregion | 1 948 | 281 | 14.42 | 3.17 |
| Beard association: 1000* | | | | |
| - in WAR bioregion | 197 | 112 | 56.98 | 5.01 |
| - in JF bioregion | 5 428 | 3 193 | 58.83 | 7.57 |
| - in SCP bioregion | 94 175 | 25 235 | 26.80 | 7.26 |
| Beard association: 1136* | | | | |
| - in JF bioregion | 7 | 5 | 76.30 | 0.00 |
| - in SCP bioregion | 48 118 | 3 236 | 6.73 | 0.79 |
| Beard association: 1181* | | | | |
| - in JF bioregion | 9 978 | 5 420 | 54.31 | 39.61 |
| - in SCP bioregion | 9 239 | 3 762 | 40.72 | 18.77 |

| | Pre-European (ha) [#] | Current Extent Remaining (ha) [#] | (%) [#] |
|-------------------|-----------------------------------|---|------------------|
| Mattiske Complex: | | | |
| - Abba (AB) | 80 085 | 5 708 | 7.1 |
| - Abba (Ad) | 12 071 | 3 501 | 29.0 |
| - Abba (AF) | 19 059 | 2 414 | 12.7 |
| - Abba (Af) | 25 792 | 2 650 | 10.3 |
| - Abba (Aw) | 90 948 | 4 396 | 4.8 |
| - Cowaramup (Cd) | 34 988 | 21 474 | 61.4 |
| - Cowaramup (C2) | 1 28 733 | 44 578 | 34.6 |
| - Cowaramup (Cw2) | 63 666 | 15 236 | 23.9 |
| - Ludlow (Lw) | 1 869 | 42 | 2.2 |
| - Preston (PR) | 97 778 | 57 113 | 58.4 |
| - QD | No data | | |
| - Treeton (T) | 278 263 | 146 624 | 52.7 |
| - Treeton (Tw) | 87 220 | 36 486 | 41.8 |
| - Wilyabrup (W2) | 35 235 | 11 106 | 31.5 |
| - Wilyabrup (Ww2) | 9 099 | 3 461 | 38.0 |
| - Yelverton (Y) | 76 393 | 22 486 | 29.4 |
| - Yelverton (Yd) | 17 686 | 9 089 | 51.4 |
| - Yelverton (Yw) | 38 411 | 8 988 | 23.4 |
| Hedde Complex: | | | |
| - Abba Complex | 16 126 | 906 | 5.6 |

REFERENCES

- * Shepherd 2009)
- # (Mattiske 1998)

The Environmental Protection Authority (EPA) supports a 30% threshold level as recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000). Some of the vegetation types under application retain less than this 30% threshold level and are considered to be critical assets by the EPA (2000). The proposal is therefore at variance to this principle.

To mitigate any potential impacts of the clearing on remnant vegetation, while acknowledging the need to maintain and upgrade roads, a condition will be imposed on the permit requiring that clearing of vegetation be avoided, and where this is not possible, minimised. In addition, to address the loss of vegetation within a highly cleared landscape, a condition has been imposed to offset the values of the area to be cleared.

Methodology EPA (2000)
Hopkins et al. (2001)
Mattiske (1998)
Shepherd (2009)

GIS Database:

- Heddle Vegetation Complexes - DEP 21/06/95
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Mattiske Vegetation - CALM 24/3/98
- Pre-European Vegetation - DA 10/01

(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

Some of the works proposed by the Shire of Busselton are within and adjacent to watercourses and wetlands. All of the areas under application are within road reserves of roads that already exist. All watercourses have previously been diverted through culverts or under bridges.

Due to the vegetation under application being contained in road reserves where there are existing roads, this proposal is not likely to be at variance to this principle.

Methodology GIS Database:
- EPP, Wetlands 2004 (DRAFT) - EPA 21/7/04
- Hydrography, Linear - DOE 1/2/04
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC 11/04/07

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

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

The topography within the region is of low relief with very shallow gradients. The purpose of the clearing is for road upgrades, on roads that are already established. The road side vegetations under application are not considered to be in areas associated with high salinity risk.

The proposal may cause some short term land degradation issues in terms of flooding and soil erosion during works. However these issues should be minimal as the existing roads already have road side infrastructure in place to prevent land degradation associated with roads, ie; table drains and culverts.

Given the small and linear nature of each application area, the proposed clearing of native vegetation is not likely to cause appreciable land degradation.

Methodology GIS Database:
- Hydrogeology, statewide - DOW 13/07/06
- Soils, Statewide DA 11/99
- Topographic Contours, Statewide - DOLA 12/09/02

(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

Some of the application areas lie adjacent to areas set aside for conservation. Roads proposed to be cleared that are associated with conservation areas are listed below:

Abbeys Farm Rd, Yelverton Rd, Puzey Rd - adjacent to Yelverton National Park
Chapman Hill Rd - adjacent to Blackwood State Forest
Haag Rd - adjacent to Haag Nature Reserve
Tutunup Rd - adjacent to Millbrook State Forest, Ruabon Townsite Nature Reserve, and an unnamed reserve.
Fish Rd - adjacent to Fish Rd Nature Reserve
Jindong Treeton Rd - adjacent to an Un-named Nature Reserve
Ruabon Rd - adjacent to Ruabon Townsite Nature Reserve

Given the low topography of the region and the small, linear nature of the application areas, the proposed clearing is not likely to significantly impact these conservation areas. However, Weed and Dieback conditions have been included in the permit to minimise the spread of identified weeds and dieback to uninfected areas.

Methodology GIS Database:

- CALM Managed Lands and Waters - CALM 1/07/05
- Topographic Contours, Statewide - DOLA 12/09/02

(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 sites fall within a number of catchment areas including Upstream Vasse_Sabina, Buananup River, Vasse Wonnerup Estuary, Carbunup River, Mary_Station, Wilyabrup Brook, Coastal and Gunyulgup Brook. The region is of low relief with an annual rainfall ranging from 800mm - 1100mm. Groundwater salinity is mapped at less than 500mg/L to 7000 mg/L TDS (Total Dissolved Solids).

The proposed clearing for roadworks may cause some short term water quality issues in terms of localised surface water sedimentation during works. However, these issues should be minimised as roadworks will include roadside infrastructure to prevent water quality issues associated with roads (ie table drains and culverts).

Due to the small and linear nature of the areas proposed to be cleared, the clearing of native vegetation is not likely to cause deterioration in the quality of surface water or groundwater within the local area.

Methodology GIS Database:

- Hydrographic Catchments - Catchments - DOE 23/03/05
- Topographic Contours, Statewide - DOLA 12/09/02
- Rainfall, Mean Annual - BOM 30/09/01

(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 purpose of clearing is for road upgrades. Some of the roads under application cross over areas subject to inundation, rivers, perennial watercourses and drains. Clearing associated with road widening is within road reserves that already exist and as such, issues relating to flooding have been previously addressed by diverting water bodies through culverts or under bridges.

Given the above, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding.

Methodology GIS Database:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC 11/04/07
- Hydrography, Linear - DOE 1/2/04
- Rivers, DOW

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

Comments

The Shire of Busselton has submitted an amendment to their clearing application to increase the total clearing area by 0.0912 hectares to include an 1 additional section of Ludlow Hithergreen Road at SLK 15.73- 16.16 and to widen the clearing area along this road from 12m to 17m along:

- SLK 15.68 to 15.73
- SLK 16.16 to 16.90

- SLK 13.65 to 14.45

The majority of the proposed clearing is within road reserves vested with the Shire of Busselton. Main Roads and the landholder of Lot 2 Diagram 57253 have provided permission for the Shire of Busselton to access the respective lands under application and apply to clear native vegetation (TRIM ref DOC94668).

No submissions from the public have been received.

No EP Act licences or approvals are required.

There are Aboriginal Sites of Significance within the Shire of Busselton. The DEC recommends consulting with local indigenous groups about the impact of the proposed clearing on these registered sites. Aboriginal Sites of Significance will need to be managed in accordance with requirements under the Aboriginal Heritage Act (1972) and with the Department of Indigenous Affairs (this was also provided as advice in the cover letter to the proponent).

Methodology TRIM ref DOC94668

GIS Database:

- Aboriginal Sites of Significance - DIA

- Native Title Claims - DLI 07/11/05

4. References

DEC (2009) Site Inspection Report for Clearing Permit Application CPS 1743/4, Various road reserves, Shire of Busselton. Site inspection undertaken 5/8/2009. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC94669).

EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.

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

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.

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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) |