



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3842/2
Permit Holder:	Shire of Augusta Margaret River
Duration of Permit:	2 October 2010 – 2 October 2015

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 works.

2. Land on which clearing is to be done

Treeton Road Reserve, Treeton (6284)
Warner Glen Road Reserve, Forest Grove (6286)

3. Area of Clearing

The Permit Holder must not clear more than 1.15 hectares of native vegetation within the areas shaded yellow on attached Plan 3842/2a and Plan 3842/2b.

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 authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

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

8. Dieback and 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* and *dieback*:

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

9. Fauna management

- (a) Prior to undertaking any clearing authorised under this Permit, the area shaded yellow on attached plan 3842/2a shall be inspected by a *fauna specialist* who shall identify trees that contain hollows suitable to be utilised as *habitat trees* by fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2010*.
- (b) Prior to clearing, any *habitat tree(s)* identified by condition 9(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2010*.
- (c) Within one week prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna clearing person* to remove and relocate fauna identified under condition 9(b).

PART III - RECORD KEEPING AND REPORTING

10. 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 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 fauna management pursuant to condition 9 of this Permit:
 - (i) the location of each *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 name of fauna reasonably likely to utilise, or that have been observed utilising, the habitat/habitat tree(s); and
 - (iii) the location and date where relocated fauna was released, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.

11. 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 10 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 2 July 2015 the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

Definitions

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

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

dry conditions means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

fauna clearing person means a person who has obtained a licence from the Department, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

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

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

habitat tree(s) means trees that have a diameter, at average adult human chest height, of greater than 70cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts;

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;

weed/s 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*.



Matt Warnock
A/MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

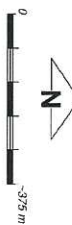
14 October 2010

Plan 3842/2a



- LEGEND**
- Areas Approved to Clear
 - Road Centrelines
 - Cadastre for labelling
 - Local Government Authorities
 - Leaswin 50am Orthomosaic - Landgate 2004

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

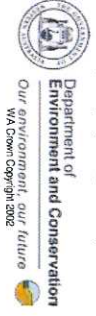


Geocentric Datum Australia 1994
 Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

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.

Michael D. ...
 Date 14/10/10



Plan 3842/2b



LEGEND

- Areas Approved to Clear
- Road Centrelines
- Cadastre for labelling
- Local Government Authorities
- Leuwin 50cm Orthomosaic - Landgate 2004
- Bussellton 50cm Orthomosaic - Landgate 2007

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

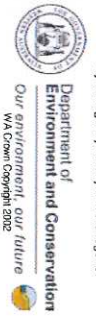


Geocentric Datum Australia 1994
 Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

M. Warlock
 Date 14/10/10

M. Warlock
 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.





1. Application details

1.1. Permit application details

Permit application No.: 3842/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Augusta - Margaret River

1.3. Property details

Property: ROAD RESERVE (FOREST GROVE 6286)
ROAD RESERVE (TREETON 6284)

Local Government Area:

Colloquial name: Warner Glen and Treeton Road reserves

1.4. Application

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

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 1: Tall forest; karri (Eucalyptus diversicolor).	The proposal is to clear 1.15 hectares of native vegetation for the purpose of roadworks within Treeton Road and Warner Glen Road reserves.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	A site inspection conducted by DEC staff on 20 August 2010 identified that the vegetation under application is in degraded to excellent condition (Keighery 1994).
Mapped Beard vegetation association 3 is described as medium forest; Eucalyptus marginata (Jarrah) Corymbia calophylla (Marri) (Shepherd 2009).			
Mapped Matiske vegetation complex C1 (Cowaramup): Open to tall open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Banksia grandis on lateritic uplands in the hyper-humid zone.			
Mapped Matiske vegetation complex W1 (Wilyabrup): tall open forest of Eucalyptus diversicolor-Corymbia calophylla-Allocasuarina decussata-Agonis flexuosa on deeply incised valleys in the hyper-humid zone.		To	
Mapped Matiske vegetation complex T (Treeton): woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla with some Allocasuarina			

fraseriana on mild slopes
in the perhumid zone.

Mapped Matiske
vegetation complex Tw
(Treeton): open forest of
Eucalyptus patens-
Corymbia calophylla-
Eucalyptus marginata
subsp. marginata on lower
slopes and on floors of
minor valleys in the
perhumid zone (Matiske,
1998).

Degraded: Structure
severely disturbed;
regeneration to good
condition requires
intensive management
(Keighery 1994)

3. Assessment of application against clearing principles

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

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

The proposal is to clear 1.15 ha of native vegetation for road upgrades within Treeton Road (0.46 hectares) and Warner Glen Road (0.69 hectares) reserves, for the purpose of road upgrades. The vegetation within these road reserves is predominantly Marri-Jarrah open forest, ranging from excellent to a completely degraded (Keighery 1994) condition.

There is approximately 40% native vegetation remaining in the local areas of both Treeton Road reserve and Warner Glen Road reserve. The majority of this vegetation is within secure tenure. Sections of Warner Glen Road border the Forest Grove National Park, and this vegetation is considered to be in excellent (Keighery, 1994) condition.

The vegetation in the Treeton Road Reserve has been assessed as having Medium Low to Medium High conservation value (RCC, 2003) and Warner Glen Road as having High Conservation Value (approximately 4km of road) and a further 3.7km was designated as having Medium High Conservation Value (RCC, 2003).

There are 13 fauna species of conservation significance recorded within the local area (10km radius) of Treeton Road and 6 within the local area of the Warner Glen Road. There are a number of potential habitat trees within Warner Glen Road, some observed to have small hollows or broken branches that are likely to develop into small hollows (DEC, 2010). These hollows have the potential to provide habitat for a number of fauna species, including Carnaby's Black Cockatoo's (*Calyptorhynchus latirostris*), Forest Red-tailed Black-Cockatoo's (*Calyptorhynchus banksii naso*) and Western Ringtail Possums (*Pseudocheirus occidentalis*) (DEC 2010).

Within the local area of Treeton Rd, 21 priority flora species and 2 rare flora species have been recorded. Of these only *Acacia semitullata* (P4) and *Astroloma* sp. Nannup (R.D.Royce 3978) (P4) were recorded on the same mapped soil and vegetation types as the area under application. Given the small size (0.465 hectare) and linear nature (2.37km length) of the application area it is unlikely that the proposed clearing would significantly impact upon the populations of these species.

Within the local area of Warner Glen Road, 38 priority flora species and 7 rare flora species have been recorded. Of these, 4 priority species, *Boronia tetragona* (P3), *Chorizema reticulatum* (P3), *Conospermum paniculatum* (P3) and *Dampiera heteroptera* (P3) have been recorded on the same mapped soil and vegetation types, however, given the small size (0.69 hectare) and linear nature (3.05km in length) of the application area it is unlikely that the proposed clearing would significantly impact upon the populations of the priority species.

Two rare flora species, *Gastrolobium modestum* and *Daviesia elongata* subsp. *elongata*, have been recorded on the same mapped soil and vegetation types as Warner Glen Road reserve, however, the application area does not contain suitable habitat for these species.

Due to there being a number of potential habitat trees located within the Warner Glen Road application area and that some of the vegetation under application is in excellent (Keighery, 1994) condition, the clearing of native vegetation as proposed may be at variance to this principle. The imposition of fauna management conditions may mitigate impacts to biodiversity.

Methodology References:
DEC (2010)
Keighery (1994)

RCC (2003)
GIS database:
- Busselton 50cm Orthomosaic - Landgate 2004
- Leeuwin 50cm Orthomosaic - Landgate 2007
- CALM Managed Lands and Waters - CALM 01/06/05
- SAC Biodatasets - accessed 2 August 2010

(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

There are 13 known records of fauna species of conservation significance within the local area (10 km radius) of Treeton Road reserve and 6 recorded within the local area of the Warner Glen Road reserve application area.

A site inspection by DEC in August 2010 identified a number of potential habitat trees within the application area for Warner Glen Road that were observed to have small hollows or broken branches that are likely to develop into small hollows. These hollows have the potential to provide habitat for a number of bird and mammal species, including Carnaby's Black Cockatoo's, Forest Red-tailed Black-Cockatoo's and Western Ringtail Possums. The site inspection also recorded Peppermint (*Agonis flexuosa*) trees within the application area, which can be an important indicator for the presence of Western Ringtail Possums (DEC 2010).

Sections of Warner Glen Road border the Forest Grove National Park. The vegetation condition within these areas has been recorded as excellent (Keighery, 1994) and there is the potential for the understory vegetation to provide suitable habitat for a further number of species, including the Brush-tailed Phascogale, Wambenger and Chuditch (DEC 2010).

Given the condition and potential significant habitat value of the native vegetation within the application area the clearing as proposed may be at variance with this principle and the imposition of fauna management conditions will mitigate impacts to fauna.

Methodology References:
DEC (2010)
Keighery (1994)
GIS database:
- Busselton 50cm Orthomosaic - Landgate 2004
- Leeuwin 50cm Orthomosaic - Landgate 2007
- CALM Managed Lands and Waters - CALM 01/06/05
- SAC Biodatasets - accessed 2 August 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

Two rare flora species, *Caladenia excelsa* and *Reedia spathacea* have been recorded within the local area (10km radius) of the Treeton Road application area and 7 rare flora species, *Banksia mimica*, *Banksia nivea* subsp. *uliginosa*, *Banksia squarrosa* subsp. *argillacea*, *Daviesia elongata* subsp. *elongata*, *Drakaea micrantha*, *Gastrolobium modestum* and *Grevillea brachystylis* subsp. *Busselton*, within the local area of the Warner Glen Road application area. Of the rare flora only *G. modestum* and *D. elongata* subsp. *elongata* have been recorded within the same mapped soil and vegetation types as the application area for Warner Glen Road. Two rare flora species, *Caladenia excelsa* and *Reedia spathacea* have been recorded within the local area (10km radius) of the Treeton Road application area and 7 rare flora species, *Banksia mimica*, *Banksia nivea* subsp. *uliginosa*, *Banksia squarrosa* subsp. *argillacea*, *Daviesia elongata* subsp. *elongata*, *Drakaea micrantha*, *Gastrolobium modestum* and *Grevillea brachystylis* subsp. *Busselton*, within the local area of the Warner Glen Road application area. Of the rare flora only *G. modestum* and *D. elongata* subsp. *elongata* have been recorded within the same mapped soil and vegetation types as the application area for Warner Glen Road. However, the vegetation under application is not suitable habitat for these species.

Given the above, it is unlikely that the proposal is at variance to this principle.

Methodology References:
Keighery (1994)
GIS database:
- Matiske Vegetation (01/03/1998)
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 2 August 2010
- Soils, Statewide DA 11/99

(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

There are 4 records of Threatened Ecological Communities (TECs) within the local area (10km radius) of the Treeton Road reserve and 8 records of TECs within the local area of the Warner Glen Road reserve application area. Of these recorded TECs, none were recorded as occurring within the same mapped soil or vegetation types as the two application areas. Therefore the clearing as proposed is not likely to be at variance to this principle.

Methodology GIS database:

- Mattiske Vegetation (01/03/1998)
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 2 August 2010
- Soils, Statewide DA 11/99

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

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

Pre-European	Current extent (ha)	Remaining (ha)	% In reserves (%)	DEC Managed Land
IBRA Bioregions*				
Warren ^	833,381	667,164	80.00	82.49
Southern Jarrah Forest	4,506,656	2,514,549	55.8	67.2
Shire*				
Augusta Margaret River	223,619	150,534	67.32	73.9
Mattiske Vegetation Complex**				
W1	7,296	4,397	60.27	26.39
C1	18,967	7,669	40.44	12.39
T	27,829	14,021	50.38	28.81
Tw	8,723	3,236	37.1	20.78
Beard Vegetation Association*				
1	12,555	7,023	56.01	52.74
3	169,669	114,082	62.74	78.34
Beard Vegetation Association with Bioregion*				
Warren				
1	69,117	55,534	80.35	81.13
3	250,262	200,890	80.27	84.78
Southern Jarrah Forest				
1	3,066	2,519	82.17	75.13
3	2,390,591	1,657,963	69.35	79.39

* (Shepherd, D.P. (2009)

** (Mattiske Consulting 1998)

^ Area within Intensive Land Use Zone

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 vegetation types under application retain more than this 30% threshold level.

The local areas (10km radius) of each Road reserve are moderately cleared with approximately 40% remaining vegetated.

Sections of the Warner Glen Road application area border the Forest Grove National Park, which forms part of the South West Regional Ecological Linkage (SWREL) area and has a proximity value of 1a: a patch with an edge touching or <100m from a linkage (Molloy et al, 2009). Sections of the Treeton Road application area border native vegetation within unallocated crown land that forms part of the SWREL area and has a proximity value of 1b: a patch with an touching or <100m from a natural area selected in 1a (Molloy et al, 2009). Given that the clearing of 1.15 ha of native vegetation is for the purpose of road upgrades the impacts on the linkage are considered unlikely to be significant.

Given that the mapped vegetation types are above the recommended threshold level of 30% and that the IBRA Bioregions within which the application areas are located are well represented in the DEC reserve system, the clearing as proposed is not likely to be at variance to this principle.

- Methodology** References:
- EPA (2000)
 - Keighery (1994)
 - Shepherd (2009)
 - Molloy et al. (2009)
- GIS Databases:
- Mattiske Vegetation Complexes - CALM 01/03/1998
 - Interim Biogeographic Regionalisation of Australia - EA 18/10/00
 - Local Government Authorities - DLI 8/07/04
 - Pre European Vegetation - DA 01/01
 - NLWRA, Current Extent of Native Vegetation 20 Jan 2001
 - SAC Biodatasets - accessed 2 August 2010
 - Busselton 50cm Orthomosaic - Landgate 2004
 - Leeuwin 50cm Orthomosaic - Landgate 2007

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

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

The proposal is to clear 1.15 ha of native vegetation within the reserves of Treeton Road and Warner Glen Road, for the purpose of road upgrades.

The Treeton Road application area is bounded by a minor perennial water course approximately 100m to the north and major perennial water course approximately 350m to the south. Both of these water courses feed into the Carbanup River, which is located approximately 800m to the west of the area under application.

The Warner Glen Road application area is surrounded by numerous unnamed minor perennial water courses, the closest of which is mapped as being approximately 200m to the north of the area under application. These unnamed minor perennial water courses feed indirectly into the Chapman Brook, located approximately 800m to the east of the area under application. Chapman Brook is a tributary of the Blackwood River. The proposed clearing will occur within road reserves where made roads exist with supporting infrastructure to divert watercourses through drains and culverts.

Given that the vegetation under application contained within road reserves with existing infrastructure, the clearing as proposed is not likely to be at variance to this principle.

- Methodology** GIS Databases:
- Busselton 50cm Orthomosaic - Landgate 2004
 - Leeuwin 50cm Orthomosaic - Landgate 2007
 - SAC Biodatasets - accessed 2 August 2010
 - ANCA wetlands - Environment Australia 26/3/99
 - CALM Managed Lands and Waters - CALM 01/06/05
 - EPP Lakes Policy Area - DEP 14/05/97
 - EPP, Wetlands 2004 (DRAFT) - EPA 21/7/04
 - Hydrography linear - DOW 13/7/06
 - Hydrography linear (hierarchy) - DoW 13/7/06
 - Ramsar wetlands - DEC 03

(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 of the sites is 80-110m AHD (Australian Height Datum) and the land is situated on sedimentary rocks and rocks of low permeability. Soil unit of the Treeton Road application area is described as undulating lands with some granite outcrop occurring next to adjacent drainage lines, while the soil unit of the Warner Glen Road application area is described as gently undulating to low hilly relief with extensive block laterite and lateritic (ironstone) gravels. Dominant soils on slopes and undulating areas are loamy mottled yellow earths for Treeton Road and hard acidic yellow mottled soils containing varying amounts of ironstone gravels for the Warner Glen Road site (Northcote, 1960-68).

The mean rainfall is 1000-1050mm per annum and the evapotranspiration rate is 1000mm per annum. Given the low topography, gravelly soils and small application areas (0.465 and 0.69 ha) it is unlikely that the clearing of 1.15 ha will be associated with soil erosion, wind erosion or water logging. Furthermore, the groundwater salinity is 1000-3000mg/L (low salinity risk). Given the small areas to be cleared and high mean rainfall, salinity

is not considered a 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, i.e. table drains and culverts.

Given the small and linear nature of each application area, it is unlikely that the clearing of native vegetation as proposed would cause appreciable land degradation.

Methodology References:
Northcote (1960-68)
GIS Database:
- Annual Evaporation Contours (Isopleths) - WRC 29/09/98
- Acid Sulfate Soil Risk Map, Swan coastal Plain - DEC 07/08/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrography, linear - DOW 13/7/06
- Salinity Risk LM 25m - DOLA 00
- Soils, State wide DA 11/99
- Topographic contours statewide - DOLA and ARMY 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 may be at variance to this Principle

The closest conservation area to the Treeton Road application area is the Northeast Margaret River State Forest, located 1.1km to the south. The closest conservation area to the Warner Glen Road application area is Forest Grove National Park which lies adjacent on the south side of the area under application and intersects the Draft Proposed RAMSAR addition of Spearwood Creek.

Given the low topography of the region and the small, linear nature of the application areas, the proposed clearing for road works is unlikely to significantly impact nearby conservation areas surrounding Treeton Road reserve. However, given the proximity of Forest Grove National Park to Warner Glen Road, the proposal may cause the spread of weeds and dieback to the adjacent National Park. The imposition of Weed and Dieback conditions may mitigate the spread of identified weeds and dieback to uninfected areas.

Methodology GIS Database:
- CALM Managed Lands and Waters - DEC Sept 08

(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 Treeton Road reserve application area is located within the catchment of Hardy Estuary-Blackwood River, while the Warner Glen Road reserve application area is located within the catchment of Carbanup River. The region is of low relief with an annual rainfall ranging from 1000-1050mm. Groundwater salinity is mapped as 1000-3000mg/L Total Dissolved Solids (TDS).

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

Due to the small and linear nature of the areas proposed to be cleared, it is unlikely that the clearing of native vegetation as proposed will cause deterioration in the quality of surface water or groundwater within the local area.

Methodology GIS database
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Evaporation Isopleths - WRC 29/09/98
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

(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 proposal is to clear 1.15 ha of native vegetation for the purpose of road upgrades. Clearing is within the road reserves of existing roads and as such issues relating to flooding have been previously addressed by diverting water through drains and culverts.

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

Methodology GIS database:
- Evaporation Isoleths - WRC 29/09/98
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The proposed clearing is located within the Busselton and Capel RIWI groundwater area. The proponent is not proposing to take any groundwater; therefore no RIWI licences are required.

Administrative changes to the permit condition 9 (Fauna management) have been made to apply the condition to the Warner Glen Road site only.

Methodology GIS database:
- Native Title Claims - LA 2/5/07
- Ramsar wetlands - DEC 03
- Aboriginal Sites of Significance 26 April 2007
- Country Area Water Supply Act (Part IIA) Clearing Control Catchments 29/06/2006
- RIWI Act, Groundwater Areas - DoW 13/07/06
- RIWI Act, Irrigation Districts - DoW 13/07/06

4. References

- DEC (2010) Site Inspection Report for Clearing Permit Application CPS 3842/1, Road Reserves Treeton and Warner Glen, Shire of Augusta Margaret River. Site inspection undertaken 20/08/2010. Department of Environment and Conservation, Western Australia (Infobase Ref. A328741).
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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)

