



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3809/1

File Number: 2010/004352-1

Duration of Permit: From 19 September 2010 to 19 September 2012

PERMIT HOLDER

Paul Allan Downes

Louisa Amanda Felicity Downes

LAND ON WHICH CLEARING IS TO BE DONE

LOT 3915 ON DEPOSITED PLAN 162617 (JINDONG-TREETON ROAD, OSMINGTON 6285)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 1 hectare of native vegetation within the area hatched yellow on attached Plan 3809/1.

CONDITIONS

1. Purpose for which clearing may be done

To the extent authorised under this Permit, the Permit Holder may undertake the following activities within the area hatched yellow on Plan 3809/1:

- (a) clearing understorey vegetation for tracks to access firewood materials and
- (b) clearing of dead trees.

2. 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:

- (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.

3. 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.

4. Flora management

- (a) Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *botanist* to inspect that area for the presence of rare flora species *Drakaea micrantha*.
- (b) Where *Drakaea micrantha* are identified in relation to condition 4 (a) of this Permit, the Permit Holder shall ensure that no clearing occurs within 50 metres of identified rare flora, unless approved by the CEO.

5. Vegetation management

- (a) The Permit Holder shall not clear native vegetation within 50 metres of the *riparian vegetation* of any *watercourse* within and/or adjacent to the area hatched yellow on Plan 3809/1.
- (b) The Permit Holder must retain a minimum of 5 *habitat trees* within the area of clearing authorised under this Permit in each hectare authorised under this Permit.

6. 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 flora management pursuant to condition 4 of this Permit:
 - (i) the location of each *Drakaea micrantha* 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) a copy of the botanists flora survey report.
- (c) In relation to vegetation management pursuant to condition 5 (b) of this Permit:
 - (i) the location of each retained 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;

7. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 6 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 12 June 2012, the permit holder must provide to the CEO a written report of records required under condition 6 of this Permit where these records have not already been provided under condition 7 (a) of this Permit.

Definitions

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

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

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;

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;

riparian vegetation has the meaning given to it in Regulation 3 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004;

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

watercourse has the meaning given to it in section 3 of the *Rights in Water and Irrigation Act 1914*;

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*.



KELLY FAULKNER
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

19 August 2010

Plan 3809/1



LEGEND

- | | |
|-------------------------|------------------------------|
| Cadastral for labelling | Hydrography, linear |
| Clearing instruments | Local Government Authorities |
| Areas Approved to Clear | |
| Road Centrelines | |



Scale 1:6000

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

Date 19/3/10

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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1. Application details

1.1. Permit application details

Permit application No.: 3809/1
 Permit type: Area Permit

1.2. Proponent details

Proponent's name: Paul Allan and Louisa Amanda Felicity Downes

1.3. Property details

Property: LOT 3915 ON PLAN 162617 (House No. 1656 JINDONG-TREETON OSMINGTON 6285)
 LOT 3915 ON PLAN 162617 (House No. 1656 JINDONG-TREETON OSMINGTON 6285)
 Local Government Area: SHIRE OF AUGUSTA - MARGARET RIVER

1.4. Application

Clearing Area (ha)	Method of Clearing	For the purpose of:
1	Mechanical Removal	Firewood Collection

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 Association: 3 - Medium forest; jarrah-marri (Hopkins et al, 1980).	The vegetation under application comprises 1ha within a 5.8ha area of Marri-Jarrah woodland in 'degraded' to 'excellent' (Keighery, 1994) condition with little weed invasion throughout the applied area.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Condition of the vegetation was confirmed during a DEC site visit on the 4 August 2010 (DEC, 2010a) and aerial photography (Busselton 50cm Orthomosaic Landgate 2007).
	An area through the central portion of the applied clearing area is dominated by Eucalyptus marginata (jarrah) and Allocasuarina fraseriana (sheoak) (DEC, 2010). The understorey ranges across the site from open to closed heath and there is evidence of disturbance at the site through historic logging and the construction of small tracks (DEC, 2010).		
Mattiske Vegetation Complex: T (Treeton) - Woodland of Eucalyptus marginata subsp. marginata - Corymbia calophylla with some Allocasuarina fraseriana on mild slopes in the prehumid zone (Mattiske & Havel, 1998).		Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (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 vegetation under application comprises 1ha within a 5.8ha area of predominantly Marri-Jarrah woodland in 'degraded' to 'excellent' (Keighery, 1994) condition with little weed invasion throughout the applied area.

An area through the central portion of the applied clearing area is dominated by Eucalyptus marginata (jarrah) and Allocasuarina fraseriana (sheoak) (DEC, 2010a). The understorey ranges across the site from open to closed low heath and there is evidence of disturbance at the site through historic logging and the construction of small tracks (DEC, 2010a).

A portion of the north-western part of the applied clearing area comprises riparian vegetation associated with a minor, perennial watercourse. This watercourse may provide habitat for the critically endangered *Engaewa pseudoreducta* (Margaret River Burrowing Crayfish) which has been recorded within two other tributaries of the same streamline system approximately 1km west and 800m south east (DEC, 2010a). Also potential habitat trees have been identified within the applied clearing area (DEC, 2010a).

Twenty six priority flora species have been recorded within the local area (10km radius) many of these species are known from only 1 record in the local area and/or are known to inhabit differing vegetation and soil types. Given that the proposal is for selective clearing and limited to up to 1ha, it is unlikely that the clearing as proposed will significantly impact upon these flora of conservation significance.

Given the 'excellent' (Keighery, 1994) condition of portions of the area under application and the little weed invasion at the site, the proposed clearing may comprise some areas of high biological diversity.

Measures implemented during the clearing process to prevent the spread and introduction of dieback and weeds will mitigate any potential impacts to surrounding native vegetation.

Methodology References:
- DEC (2010a)
- Keighery (1994)
GIS Databases:
SAC Biodatasets - Accessed 28 July 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**

Fifteen threatened and priority fauna species have been recorded within the local area (10km radius) of the applied clearing area with the closest record being *Engaewa pseudoreducta* (Margaret River Burrowing Crayfish) approximately 500m away.

The Margaret River Burrowing Crayfish is listed as Critically Endangered under both state (Wildlife Conservation Act 1950) and commonwealth (Environment Protection and Biodiversity Conservation Act 1999) legislation. This species is known to inhabit the narrow creek tributaries of the Margaret River which are densely vegetated on heavy grey/yellow clay soils (Burnham et al, 2007). This species has been recorded within two other tributaries of the same streamline system approximately 1km west and 800m south east (DEC, 2010a). Therefore the minor, perennial watercourse, which runs through the north-west portion of the applied area may provide habitat for the Margaret River Burrowing Crayfish. A condition requiring no clearing within 50m of the watercourse will minimise the risk of soil and physical disturbance to the area.

The jarrah and marri woodland under application also provides foraging habitat for both Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) and Carnaby's black cockatoo (*Calyptorhynchus latirostris*) which have both been recorded within the local area. Given the clearing is restricted to selective clearing of standing dead vegetation and logs as well as some understorey for access, the proposal is not likely to impact upon the foraging habitat of these species and there were no hollows currently large enough for breeding habitat for these species observed during the site visit (DEC, 2010a).

Some diggings were identified within the applied area which could be Quenda (*Isoodon obesulus fusciventer*) diggings (DEC, 2010a) and given that there are areas of closed low heath up to 'excellent' (Keighery, 1994) condition (DEC, 2010a), the vegetation is likely to provide good habitat for indigenous ground-dwelling fauna.

Some potential standing habitat trees and logs have been identified within the applied clearing area (DEC, 2010a) that may be suitable habitat for small bird and arboreal mammal species and ground-dwelling fauna respectively. Although the trees and logs may not be considered significant due to remaining surrounding vegetation within the local area (10km radius), including areas within DEC tenure, that also provide suitable habitat, a condition to retain a minimum of 5 standing habitat trees per hectare (CALM, 2004) will ensure the retention of current and future fauna habitat within the area under application.

Methodology References:
- Burnham et al (2007)
- CALM (2004)
- DEC (2010a)
- Keighery (1994)
GIS Databases:
- SAC Biodatasets, DEC - Accessed 28 July 2010

(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

Four declared rare flora species have been recorded within the local area (10km Radius) with the closest record being *Gastrolobium modestum* approximately 3.9km from the applied clearing area.

Gastrolobium modestum, *Banksia squarrosa* subsp. *argillacea* and *Banksia mimica* are all known from one record within the local area prior to 1980 with *Banksia mimica* known to inhabit different vegetation types. It is therefore unlikely that these species occur within the applied area.

Drakaea micrantha has been recorded within the local area approximately 4.3km from the applied area and is known to inhabit areas with previous disturbance such as firebreaks and open sandy sites on infertile grey sands in sheoak (*Allocasuarina fraseriana*) and jarrah (*Eucalyptus marginata*) woodland or forest (Brown et al, 1998 & WA Herbarium (1990-2010)). Given that this species inhabits similar vegetation and soil types to the area under application, there is a possibility that this species could inhabit the applied area.

However, given the scale of the proposed clearing (up to 1ha) and the nature of the clearing being mostly selective clearing of logs and standing dead trees for firewood, it is unlikely that the proposed clearing will significantly impact upon flora of conservation significance.

Methodology References:

- Brown et al (1998)
 - WA Herbarium (1998-2010)
- GIS Databases:
- Matiske Vegetation Complexes - CALM
 - Pre-European Vegetation - DA
 - SAC Biodatasets, DEC - Accessed 28 July 2010
 - Soils, Statewide - DA

(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 has been recorded within the local area (10km radius) of the applied clearing area, shrublands on southern Swan Coastal Plain ironstones (Busselton Area), a community listed as Endangered under commonwealth legislation (EPBC Act 1999) and endorsed by the Minister for Environment at state level as Critically Endangered (DEC, 2006).

The vegetation under application comprises mixed jarrah (*Eucalyptus marginata* subsp. *marginata*) - marri (*Corymbia calophylla*) woodland with some areas dominated by jarrah and sheoak (*Allocasuarina fraseriana*) (DEC, 2010a), which is not indicative of the species found within the shrublands on southern ironstones community (Gibson et al, 1994). The applied area does not have any affinities with this threatened ecological community and therefore the proposal is not likely to be at variance to this principle.

Methodology References:

- DEC (2006)
 - DEC (2010a)
 - Gibson et al (1994)
- GIS Databases:
- Matiske Vegetation Complexes - CALM
 - Pre-European Vegetation - DA
 - SAC Biodatasets, DEC - Accessed 28 July 2010
 - Soils, Statewide - DA

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

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

The vegetation under application has been mapped as the Beard Vegetation Association 3 - medium forest; jarrah-marri (Hopkins et al, 2001) of which there is 69.3% of the pre-European extent remaining within the Jarrah Forest IBRA region (Shepherd, 2009).

The area under application is also mapped as the Matiske Vegetation Complex Treeton with vegetation consisting of a woodland of *Eucalyptus marginata* subsp. *marginata* - *Corymbia calophylla* with some *Allocasuarina fraseriana* (DEC, 2010a & Havel & Matiske Consulting Pty Ltd, 2002).

The property lies within the Shire of Augusta-Margaret River in the Jarrah Forest IBRA region which have 67.3% and 55.8% of their pre-European extent remaining respectively (Shepherd, 2009).

The Shire of Augusta-Margaret River has advised that the Treeton vegetation complex does not meet the national target of 15% of the pre-1970 extent of this vegetation complex protected within the formal reserve system (Commonwealth of Australia, 1997), with only 11% retained within conservation reserves (Shire of Augusta-Margaret River, 2010).

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, bioregion and Shire all retain above 30% of their pre-European extents.

The applied clearing area comprises up to 1 ha of predominantly logs and some dead standing trees including some understorey being cleared in order to gain access to them. The applied area is in an area that has approximately one third of vegetation secured within DEC tenure. For these reasons the vegetation under application is not likely to be considered significant as a remnant of native vegetation in an area that has been extensively cleared.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Jarrah Forest	4,506,657	2,514,550	55.8	67.20
Shire*				
Shire of Augusta-Margaret River	223,619	150,534	67.3	73.90
Beard vegetation type*				
3 (within Jarrah Forest)	2,390,591	1,657,963	69.3	79.39
Mattiske vegetation complex**				
T (Treeton)			42.0	11.30

*Shepherd (2009)

**Havel & Mattiske Consulting Pty Ltd (2002)

Methodology

References:

- Commonwealth of Australia (1997)
- Commonwealth of Australia (2001)
- DEC (2010a)
- Havel & Mattiske Consulting Pty Ltd (2002)
- Hopkins et al (2001)
- Shepherd (2009)
- Shire of Augusta-Margaret River (2010)

GIS Databases:

- DEC Tenure - DEC
- Mattiske Vegetation Complexes - CALM
- Pre-European Vegetation - DA

(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

A minor, perennial watercourse, a tributary of the Margaret River, runs through the northern portion of the applied clearing area. The applied clearing area comprises riparian vegetation (DEC, 2010a) growing in association with this watercourse and therefore is at variance to this principle.

The vegetation along the watercourse is dense and is in 'excellent' (Keighery, 1994) condition (DEC, 2010a) providing good protection to the watercourse itself and indigenous fauna habitat.

A condition requiring no clearing within 50m of the watercourse will address potential impacts to the watercourse and the vegetation associated with the watercourse.

Methodology

References:

- DEC (2010a)
- DoW (2010)
- Keighery (1994)

GIS Databases:

- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW

(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 on the property have been mapped by Northcote et al (1960-68) as being "generally hard acidic yellow mottled soils" on slopes and undulating areas "containing small to very large amounts of ironstone gravels" with some associated soils being "underlain by block laterite on the less dissected areas devoid of stream channels" and "acid grey earths sometimes containing ironstone gravels in shallow flat-bottomed valleys." The soils evident on site appear to be grey sandy clays and white-grey sands over ironstone gravel (DEC, 2010a).

The risk of salinity at the site is mapped as low with groundwater salinity being less than 500mg/L total dissolved solids. The topography of the applied clearing area ranges from approximately 105m to 125m AHD and is of a medium relief.

Clearing of tracks on the property has shown that the site may be prone to waterlogging during the winter months (DEC, 2010a). However, given the applied clearing area is small, less than 1ha, with the clearing being predominantly for the removal of logs and dead standing trees, the clearing itself is likely to result in minimal, localised impacts but is not likely to cause appreciable land degradation.

Methodology

References:

- DEC (2010a)
- Northcote et al (1960-68)

GIS Databases:

- Groundwater Salinity, Statewide - DoW
- Salinity Risk LM 25m - DOLA
- Soils, Statewide - DA
- Topographic Contours, Statewide - DOLA and ARMY

(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 area under application is located within Land for Wildlife site 1362 (DEC, 2010b). However, it should be noted that Land for Wildlife is a voluntary scheme that aims to encourage and assist private landholders in Western Australia to provide habitats for wildlife on their property, even though the property may be managed primarily for other purposes.

Three DEC conservation areas (North East Margaret River State Forest, Rapids Conservation Park and Bramley National Park) and one interim listed Register of National Estate site (Donnybrook Sunlands Areas and Rapids Management Priority Area) occur within the local area (10km radius) of the applied clearing area.

The closest conservation area is the North East Margaret River State Forest which lies approximately 340m north of the applied clearing area.

Given the scale and nature of the proposed clearing and the distance to the state forest which includes retained native vegetation on Lot 3915 north of the applied area, it is concluded that the proposed clearing is not likely to be at variance to this principle.

Methodology

References:

- DEC (2010b)

GIS Databases:

- DEC Tenure - DEC
- Register of National Estate - EA
- SAC Biodatsets, DEC - Accessed 10 August 2010

(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 applied clearing area lies within the Margaret River Catchment within the Busselton Coast Basin. The vegetation under application lies within the Busselton-Capel RiWI Groundwater Area whereby the use of groundwater resources in this location falls under the management of Department of Water (DoW).

The groundwater salinity at this site is less than 500mg/L total dissolved solids with the salinity risk mapped as low. The topography of the applied clearing area ranges from approximately 105m to 125m AHD and is of a medium relief.

Given the scale and nature of the proposed clearing, the proposal is unlikely to impact upon the underground water sources in the area.

A minor, perennial watercourse runs through the north-western portion of the applied clearing area. Clearing within and in close proximity to the watercourse, is likely to result in sedimentation of the watercourse. A condition requiring no clearing within 50m of the watercourse will address potential impacts to water quality within the watercourse.

Methodology References:
- DoW (2010)
GIS Databases:
- Hydrographic Catchments - Catchments - DoW
- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW
- RiWi Act, Groundwater Areas - DoW

(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**

One minor, perennial watercourse, a tributary of the Margaret River, runs through the northern portion of the applied clearing area.

Given the scale (up to 1ha) of vegetation proposed to be cleared, much of which is dead vegetation and logs, it is unlikely that the proposed clearing will exacerbate the incidence or intensity of flooding in the local area.

The proposal is therefore not likely to be at variance to this principle.

Methodology GIS Databases:
- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW

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

Comments

The property is zoned 'Rural' under the Town Planning Scheme.

The Shire of Augusta-Margaret River has advised that the Treeton vegetation complex does not meet the national target of 15% of the pre-1970 extent of this vegetation complex protected within the formal reserve system (Commonwealth of Australia, 1997), with only 11% retained within conservation reserves (Shire of Augusta-Margaret River, 2010). The Shire has also recommended that conditions of the permit should involve measures to reduce the spread or introduction of dieback, minimise clearing and impact to vegetation by using existing firebreaks and cleared areas as internal access as much as possible and significant living vegetation be temporarily fenced (Shire of Augusta-Margaret River, 2010).

The property lies within the Busselton-Capel Groundwater Area managed under the Rights in Water and Irrigation Act 1914 and the priority 3 area of the Margaret River Catchment Public Drinking Water Source Area managed under the Country Areas Water Supply Act 1946, administered by the Department of Water (DoW). DoW has advised that a minimum 30m vegetated buffer from the minor, perennial watercourse and the dam on the property be retained in order to minimise the risk of the clearing to impact upon the water resources (DoW, 2010).

The area under application is located within Land for Wildlife site 1362 (DEC, 2010b). Land for Wildlife is a voluntary scheme that aims to encourage and assist private landholders in Western Australia to provide habitats for wildlife on their property however the property may still be managed primarily for other purposes.

Clearing of tracks on the property has shown that the site may be prone to waterlogging during the winter months (DEC, 2010a) and impact of vehicle movement across cleared areas during this time could also result in increased detrimental impacts to the soil, including compaction resulting in increased potential for waterlogging at the site. However, dieback management conditions restricting the movement of soil in wet conditions will help to ensure that the impact to the soils within access tracks are minimised through vehicle impacts in the winter months.

Methodology References:
- Commonwealth of Australia (1997)
- DEC (2010a)
- DEC (2010b)
- DoW (2010)
- Shire of Augusta-Margaret River (2010)
GIS Databases:
- Public Drinking Water Source Areas (PDWSAs) - DoW
- RiWi Act, Groundwater Areas - DoW
- SAC Biodatasets, DEC (Land for Wildlife) - Accessed 10 August 2010
- Town Planning Scheme Zones - MFP

4. References

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- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2010a) Site Inspection Report for Clearing Permit Application CPS 3809/1, Lot 3915 on Plan 162617 Jindong-Treeton Road, Osmington. Site inspection undertaken 4 August 2010. Department of Environment and Conservation, Western Australia (DEC Ref. A324260).
- DEC (2010b) Query regarding Lot 3915 on Plan 162617 Jindong-Treeton Road, Osmington - Land for Wildlife and Conservation Covenant Information. South West Region, Department of Environment and Conservation. DEC ref A324262.
- DoW (2010) Advice for Clearing Application (CPS3809/1) - Lot 3915 on Plan 162617 Jindong-Treeton Road, Osmington. Department of Water, South West Region, Bunbury, Western Australia. DEC ref A324247.
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- Havel, J.J. and Mattiske Consulting Pty Ltd (2002) Review of management options for poorly represented vegetation complexes, Conservation Commission.
- 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.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
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- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- 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.
- Shire of Augusta-Margaret River (2010) Direct Interest Submission - Application to Clear Native Vegetation on Lot 3915 on Plan 162617 Jindong-Treeton Road, Osmington. Shire of Augusta-Margaret River, Margaret River, Western Australia. DEC ref A321614.

5. Glossary

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