



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 2987/1
Permit Holder:	Trevor John Henry Clark
Duration of Permit:	26 April 2009 – 26 April 2017

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 silvicultural thinning and bushfire fuel management.

2. Land on which clearing is to be done

LOT 1253 on DEPOSITED PLAN 149328

3. Area of Clearing

The Permit Holder must not clear more than 16.42 hectares of native vegetation within the area hatched yellow on attached Plan 2987/1.

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. 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

6. Type of clearing authorised

(a) The Permit Holder may undertake the following activities:

- (i) clearing of *understorey* within the areas cross-hatched yellow on Plan 2987/1;
- (ii) clearing for the establishment of a *log landing* no larger than 0.1 hectares in size;
- (iii) *thinning* of Karri (*Eucalyptus diversicolor*) trees;
- (iv) *culling* of unsaleable trees; and
- (v) burning of cleared *understorey* and *culled* trees.

(b) Clearing authorised under this Permit must be completed by 26 April 2013, being four years from the date from which this Permit becomes valid.

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:

- (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. Vegetation management

- (a) Prior to undertaking any clearing authorised under this Permit, an *environmental specialist* must determine the species composition, structure and density of the *understorey* of areas proposed to be *thinned*.
- (b) The Permit Holder must retain a minimum of 2 *habitat trees* within the area of clearing authorised under this Permit in each hectare authorised under this Permit.
- (c) A minimum retention rate of 18m²/ha *basal area* is required within the area of clearing authorised under this Permit.
- (d) Prior to undertaking any clearing authorised under this Permit, the Permit Holder must exclude all *stock* from the areas subject to *thinning* activities.
- (e) Within one month of completing clearing, the Permit Holder must *rehabilitate* any *log landings* established within native vegetation by scarifying the soil surface to reduce compaction and facilitate natural regeneration.
- (f) Within two years of completing clearing of native vegetation authorised under this Permit, the Permit Holder must:
 - (i) determine the species composition, structure and density of the *understorey* of areas subject to *thinning*; and
 - (ii) where, in the opinion of an *environmental specialist*, there is evidence that *understorey* will not recover and develop towards its pre-clearing composition, structure and density determined under condition 8(f)(i), the Permit Holder must undertake *remedial action* at an *optimal time* within the next 12 months to ensure re-establishment of *understorey* prior to expiry of this Permit.

9. Dieback 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 introduction and spread of *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) shall not move soils in wet conditions;
- (c) ensure that no *dieback*-affected soil, *mulch*, *fill* or other material is brought into an area that is not affected by *dieback*; and
- (d) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III - RECORD KEEPING AND REPORTING

10. Records to 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 vegetation management pursuant to condition 8 of this Permit:
- (i) prior to clearing native vegetation authorised under this Permit, the species composition, structure and density of *understorey*;
 - (ii) the species and number per hectare of *habitat trees* retained;
 - (iii) the location of *habitat trees* retained, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (iv) monitoring undertaken to ensure that the specified minimum *basal area* is retained;
 - (v) number of *log landings* established;
 - (vi) the location of *log landings*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (vii) photographs of the *understorey* taken at one year, two years and three years after completing clearing authorised under this Permit; and
 - (viii) a detailed description of the nature and extent of any *remedial actions* undertaken.

11. 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 10 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 26 January 2017, 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:

basal area is the method of expression of tree cover density in an area where the total area of tree trunk, measured at average adult human breast height, is expressed as square metres per hectares of land area;

culled/ing means the selective removal and/or killing of unsaleable trees for *thinning*, using methods including notching, felling or machine pushing;

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

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

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

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;

local provenance means native vegetation seeds and propagating material from natural sources within 10-40 kilometres of the area cleared.

log landing/s means an area established for the purpose of stockpiling commercially harvested trees, to enable loading for collection;

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;

optimal time means the period from April to June for undertaking *direct seeding*, and the period from: May to June for undertaking planting;

regenerate/ed/ion means *revegetation* that can be established from in situ seed banks contained either within the topsoil or seed-bearing *mulch*;

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

remedial action/s means for the purpose of this Permit, any activity that is required to ensure successful re-establishment of *understorey* to its pre-clearing composition, structure and density, and may include a combination of soil treatments and *revegetation*.

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

stock means the horses, cattle, sheep, pigs and other non-indigenous grazing animals kept or bred on a property;

thinned/ing describes a silvicultural activity to promote the growth of selected trees by removing competing trees; and

understorey means, for the purpose of this Permit, all native vegetation that does not include trees to be *culled* or subject to harvest;



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

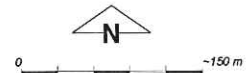
26 March 2009

Plan 2987/1



LEGEND

Clearing Instruments
Cadastral
Deep River 50cm Orthomosaic



Scale 1:5898

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

K Faulkner Date 26/3/09

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.



Department of
Environment and Conservation

WA Crown Copyright 2002



1. Application details

1.1. Permit application details

Permit application No.: 2987/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Trevor John Henry Clark

1.3. Property details

Property: LOT 1253 ON PLAN 149328 (House No. 333 NUNN HAZELVALE 6333)
Local Government Area: Shire Of Denmark
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
16.42		Mechanical Removal	Timber Harvesting

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 Unit: 27 - Low woodland; paperbark (<i>Melaleuca</i> sp.)	The proposal is to clear 16.42 ha of native vegetation for the purpose of Silvicultural thinning and fire hazard reduction (lightening fuel load).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation condition was determined through aerial mapping (Deep River 50cm Orthomosaic Landgate04) and from a site inspection of the applied area (DEC, 2009)
Mattiske Vegetation Complex: Ky : Keystone - Open forest of <i>Eucalyptus</i> <i>marginata</i> subsp. <i>marginata</i> - <i>Corymbia</i> <i>calophylla</i> - <i>Banksia grandis</i> on mild slopes of hills in perhumid zone and open forest to tall open forest of <i>Eucalyptus brevistylis</i> on slopes below outcrops in hyperhumid and perhumid zones.			

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The proposal is to clear 16.42 ha of native vegetation in excellent (Keighery, 1994) condition (DEC, 2009) for the purpose of silvicultural thinning and removing fuel load to reduce fire hazard within the applied area.

As clearing is for sustainable silviculture the biodiversity values will not be compromised. To ensure this occurs Vegetation Management conditions will be placed on the permit.

The local area (10km radius) retains approximately 85% native vegetation, much of which has some level of protection (ie DEC managed lands). Much of the nearby vegetation is in similar condition as the applied area and therefore the area under application is not likely to be significant fauna habitat.

There are many priority flora found within the local area however the applied area is not likely to contain habitat suitable for any rare priority flora found near by (DEC, 2009).

There are no Threatened Ecological Communities (TECs) and one Priority Ecological Community (PEC) within the local area, namely *Reedia Swamps*.

Given the high retention of vegetation within the local area and the condition and level of protection given to much of that vegetation, the area under application is not likely to have a high level of biodiversity within a local context.

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

Methodology References:
DEC (2009)
Keighery (1994)

GIS Database:
SAC Biodatasets - accessed 23 Feb 09
Mattiske Vegetation (01/03/1998)
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 is not likely to be at variance to this Principle**

The local area (10 km radius) retains approximately 85% native vegetation in similar condition as the applied area. Much of the nearby vegetation has some level of protection (ie DEC managed lands).

There are 9 threatened and endangered fauna species and 5 priority fauna species recorded within the local area. The area under application includes habitat suitable for Quokka's (*Setonix brachyurus*), Southern Brown Bandicoot (*Isodon obesulus*) and Brush-tailed Phascogale (*Phascogale tapoatafa*) however providing the riparian system to the south of the applied area is not disturbed the proposal is not likely to impact on this species (DEC, 2009).

It is likely, given the condition of the vegetation, that there are numerous native fauna habitat occurring within the applied area, however given the vegetation retention in the local area, the vegetation under application is not likely to be significant habitat for fauna native to Western Australia.

Methodology References:
DEC (2009)

GIS Database:
SAC Biodatasets - accessed 23 Feb 09
CALM Managed Lands and Waters - CALM 01/06/05

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

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

There are four rare flora known to occur within a 10km radius of the applied area. Of these three are mapped as occurring within the same vegetation as that under application.

Given that the applied area is on a hill slope the likelihood of *Reedia spathacea* and *Microris globula* occurring within the applied area (WA Herb, 1998 -) are low. In addition the likelihood of *Banksia verticillata* occurring within the proposal area is low as this species is known to grow in association with heath or low scrub around granite (WA Herb, 1998 -).

Drakaea micrantha is not mapped as occurring on the same vegetation as the applied area however this species is known from records around woodland habitats which are significantly different from the applied area (WA Herb, 1998 -).

A site visit of the applied area confirmed that the vegetation under application is not suitable habitat for known rare flora occur within the local area (DEC, 2009).

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

Methodology References:
DEC (2009)
WA Herbarium (1998 -)

GIS Database:
SAC Biodatasets - accessed 23 Feb 09
CALM Managed Lands and Waters - CALM 01/06/05

(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 no known occurrences of Threatened Ecological Communities (TECs) within the local area (10km radius).

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

Methodology GIS Database:
SAC Bio datasets - accessed 23 Feb 09
CALM Managed Lands and Waters - CALM 01/06/05

(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 (ha)	Current extent (ha)	Remaining (%)	% In reserves DEC Managed Land
IBRA Bioregions***				
Warren^	835,925	675,836	80.85	82.37
Shire*				
Denmark	192,821	150,441	78.02	77.30
Mattiske Vegetation Complex**				
Ky	147,441	136,307	92.4	N/A
Beard Vegetation Complex*				
27				
(statewide)	130,365	95,260	73.07	81.24
(in WAR) 70,203	53,458	76.15	87.83	

* (Shepherd et al., 2007)

** (Mattiske and Havel, 1998)

*** (Shepherd et al., 2001; Hopkins et al., 2001)

The local area (10km radius) retains approximately 85% native vegetation, much of which has some level of protection (ie DEC managed lands).

Given the high vegetation retention in the local area and of the vegetation types in the bioregion and throughout Western Australia the vegetation under application is not likely to be significant in an extensively cleared landscape.

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

Methodology References:
Hopkins et al (2001)
Mattiske and Havel (1998)
Shepherd et al. (2001)
Shepherd (2007)

GIS Database:
Interim Biogeographic Regionalisation of Australia - EA 18/10/00
Local Government Authorities - DLI 8/07/04
Mattiske Vegetation - CALM 1/03/1998
Pre European Vegetation - DA 01/01
SAC Biodatasets - accessed 23 Feb 09
NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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**
There are no mapped wetlands or watercourses within the applied area and a site inspection did not identify any wetlands or watercourses within the applied area (DEC, 2009).

The closest mapped watercourse is approximately 140 metres south east of the applied area, with the closest

wetland being mapped approximately 3.4km south west.

Given the distance between the applied area and the closest wetlands and watercourses, the clearing as proposed is not likely to be at variance to this principle.

Methodology **References:**
DEC (2009)

GIS Database:
ANCA wetlands - Environment Australia 26/3/99
CALM Managed Lands and Waters - CALM 01/06/05
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain DEC 11/04/07
Hydrography linear - DOW 13/7/06
Hydrography linear (hierarchy) - DoW 13/7/06
Ramsar wetlands - DEC 03
South Coast Significant Wetlands- WRC 10/06/2003

(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 area under application is situated on ridge top to mid slope (DEC, 2009) and is mapped as having chiefly hard acidic and neutral yellow mottled soils and hard acidic red soils (Northcote et al., 1980).

The proposal is for sustainable silvicultural and to reduce high fuel load to reduce fire hazard from the applied area, given this, much vegetation will be retained within the applied area post clearing. To ensure sustainable silviculture occurs within the applied area vegetation management conditions will be placed on the permit.

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

Methodology **References:**
DEC (2009)
Northcote et al (1980)

GIS Database:
Average Annual Rainfall Isohyets - WRC 29/09/98
Annual Evaporation Contours (Isopleths) - WRC 29/09/98
Hydrogeology, statewide - DOW 13/07/06
Hydrographic catchments, catchments - DoW 01/06/07
Hydrography, linear - DOW 13/7/06
Salinity Risk LM 25m - DOLA 00
Soils, Statewide 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 is not likely to be at variance to this Principle**

The closest area of conservation significance is a DEC managed Timber reserve located approximately 500m north of the applied area.

Within the local area (10km radius) are the Walpole-Nornalup National Park (930m south) and the Frankland State Forest (1.4km north west).

Given the distance between the applied area and the closest areas of conservation significance, the clearing as proposed is not likely to impact on the environmental values of conservation areas.

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

Methodology **GIS Database:**
CALM Managed Lands and Waters - CALM 01/06/05
Hydrography, linear - DOW 13/7/06
Register of National Estate - Environment Australia, Australian and world heritage division 12 Mar 02
System 1 to 5 and 7 to 12 areas DEC 11/7/06

(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 clearing as proposed does not include any surface water expression areas and the purpose of clearing will result in the retention of native vegetation within the applied area post clearing.

Given the above it is not likely that the clearing will impact on the quality or quantity of surface and groundwater within the local area (10km radius) and is not likely to be at variance to this principle.

Methodology GIS Database:

Evapotranspiration Isopleths - WRC 29/09/98
Groundwater Salinity Statewide DoW 13/07/06
Hydrographic catchments, catchments - DoW 01/06/07
Hydrography, linear - DOW 13/7/06
Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
Salinity Risk LM 25m - DOLA 00

(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

Given the purpose for clearing, silvicultural thinning and to remove fuel load to reduce fire hazard the applied area will retain native vegetation post clearing.

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

Methodology GIS Database:

Evapotranspiration Isopleths - WRC 29/09/98
Groundwater Salinity Statewide DoW 13/07/06
Hydrographic catchments, catchments - DoW 01/06/07
Hydrography, linear - DOW 13/7/06
Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
Salinity Risk LM 25m - DOLA 00
Topographic contours statewide - DOLA and ARMY 12/09/02

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

Comments

Clearing is for the purpose of silvicultural thinning and to remove fuel load to reduce fire hazard, therefore a PN license is required from the Department of Environment and Conservation. The applicant has submitted an applied for a PN license which is pending the outcome of appropriate clearing approvals being obtained (DOC77799).

Vegetation management conditions have been added to the permit to restore the understorey disturbed by the silviculture operations, retain mature trees and a set basal area for habitat and exclude stock to ensure the remaining vegetation can continue to function due to the disturbance and will recover in the future. These conditions are consistent with DEC Sustainable Forest Management (DEC, 2005).

A public submission was received supporting the proposal (DOC78797).

Methodology References:

DEC (2005)

GIS Database:

Cadastre - Landgate Dec 07
Native Title Claims - LA 2/5/07
Town Planning Scheme Zones - MFP 31/08/98

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is not likely to be at variance to the remaining clearing Principles.

5. References

DEC (2009) Advice to Assessing Officer, Site Inspection Report and Regional Advice, Department of Environment and Conservation South West Region, unpublished document, DOC79249.

- Department of Environment and Conservation (2005) Silvicultural Practice in the Karri Forest. Department of Conservation and Land Management. SFM Guideline No.3
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.
- 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. (2007). 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Western Australian Herbarium (1998-). FloraBase The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 20/3/2009).

6. 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)