GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS
Area Permit Number: 4689/1
File Number: 2011/010260-1
Duration of Permit: From 6 February 2012 to 30 June 2019

PERMIT HOLDER
Brian Richard Ede
Anne Christine Walsh

LAND ON WHICH CLEARING IS TO BE DONE
Lot 240 on Plan 301871, Crowea.

AUTHORISED ACTIVITY
The Permit Holder shall not clear more than 11.9 hectares of native vegetation within the area hatched yellow on attached Plan 4689/1.

CONDITIONS

1. **Period in which clearing is authorised**
   The Permit Holder shall not clear any native vegetation after 30 June 2014

2. **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.

3. **Type of clearing authorised**
   To the extent authorised under authorised activity of this Permit, the Permit Holder may undertake the following activities within the area cross-hatched yellow on Plan 4689/1:
   (a) The Permit Holder may undertake the following activities:
      (i) clearing and burning of *understorey*;
      (ii) *thinning* of Marri (Corymbia calophylla) or Karri (Eucalyptus diversicolor) trees; and
      (iii) *culling* and burning of unsaleable trees.

4. **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.

5. **Dieback and weed control**
   (a) 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*:
      (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
      (ii) shall only move soils in *dry conditions*;

(iii) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
(iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

6. Fauna management

(a) Prior to undertaking any clearing authorised under this Permit, the areas shall be inspected by a *fauna specialist* who shall identify *habitat tree(s)* suitable to be utilised as habitat by fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice*.
(b) Prior to undertaking any clearing authorised under this Permit, *habitat tree(s)* identified by condition 6(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice*.
(c) Where fauna are identified in relation to conditions 6(b) of this Permit, the Permit Holder shall ensure that no taking of identified fauna occurs unless authorised under Regulation 15 of the *Wildlife Conservation Regulations 1970.*

7. 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* in each hectare authorised under this Permit.
(c) A minimum retention rate of $14m^2$/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 two years of 30 June 2014, the Permit Holder must:
  (i) engage an *environmental specialist* to 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 7(a), 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.

8. 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 vegetation management pursuant to condition 7 of this Permit:
  (i) the species and number per hectare of *habitat trees* retained;
  (ii) 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;
  (iii) monitoring undertaken to ensure that the specified minimum *basal area* is retained;
  (iv) photographs of the *understorey* taken at one year, two years and three years after completing clearing authorised under this Permit;
  (v) a detailed description of the nature and extent of any *remedial actions* undertaken; and
  (vi) a copy of the *environmental specialist's* report.

9. **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 8 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 30 March 2016, the Permit Holder must provide to the CEO a written report of records required under condition 8 of this Permit where these records have not already been provided under condition 9(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, whose diameter is measured at 1.5m above the ground, 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;

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

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;

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

habitat tree(s) means trees that have a diameter, measured at 1.5m above the ground, of 50cm or greater, 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;

Wildlife Conservation (Specially Protected Fauna) Notice means those fauna taxa gazetted as rare fauna pursuant to section 14(4)(a) of the *Wildlife Conservation Act 1950* (as amended).

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 July for undertaking *planting*;

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*.

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;

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

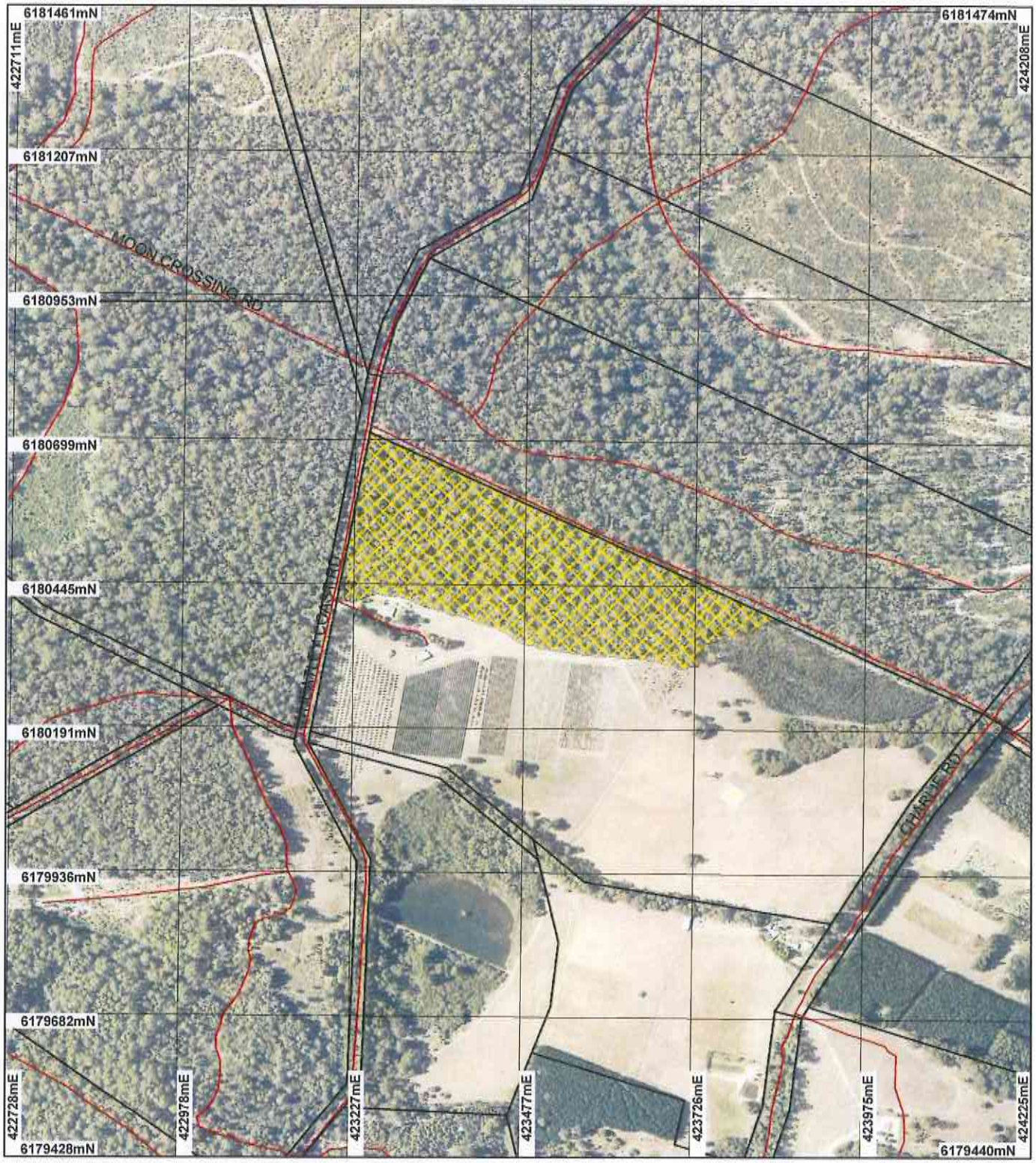
weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976.*

M Warnock
A/MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20
of the Environmental Protection Act 1986

12 January 2012

Plan 4689/1



LEGEND

Clearing Instruments

- Areas Approved to Clear
- Road Centrelines
- Cadastre

Northcliffe 50cm Orthomosaic - Landgate 2007

N

0 ~250 m

Scale 1:8925

(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.

M. Warnock Date 12/1/12

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

Our environment, our future

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

Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4689/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Brian Richard Ede and Anne Christine Walsh

1.3. Property details

Property: LOT 240 ON PLAN 301871 (House No. 2503 WHEATLEY COAST CROWEA 6258)
Local Government Area: Shire of Manjimup

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
11.9		Cutting	Timber Harvesting

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 12 January 2012

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 1144: Tall forest; karri & marri (Corymbia calophylla) Beard Vegetation Association 3: Medium forest; jarrah-marri (Shepherd, 2009). Mattiske Vegetation Complex Crowea (CRy): Tall open forest of Corymbia calophylla with mixture of Eucalyptus marginata subsp. marginata and Eucalyptus diversicolor on uplands in hyperhumid and perhumid zones. Mattiske Vegetation Complex Granite Valleys (S1): Tall open forest of Eucalyptus diversicolor-Corymbia calophylla on slopes with some Eucalyptus patens and Eucalyptus megacarpa on valley floors in hyperhumid and perhumid zones. Mattiske Vegetation Complex Granite Valleys (V1): Mixture of tall open forest of Eucalyptus diversicolor-Allocasuarina decussata-Agonis flexuosa, and tall open forest of Eucalyptus	The application is to clear within 11.9 ha of native vegetation for the purpose of silvicultural thinning. The vegetation under application comprises of a closed forest of Eucalyptus diversicolor (Karri), Eucalyptus marginata (Jarrah), and Corymbia calophylla (Marri). Middle storey of vegetation comprised of Acacia pentadenia and Trymalium floribundum, with a ground cover of Acacia urophylla, Acacia pulchella, Podocarpus drouynianus and Pteridium esculentum (DEC, 2011). The vegetation under application is considered to be in an Excellent (Keighery, 1994) condition (DEC, 2011), with evidence of past logging operations throughout the application area (DEC, 2011).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The condition and the description of the vegetation under application has been established through a site visit conducted by Department of Environment and Conservation officers on the 12 December 2011 (DEC, 2011).

marginata subsp. marginata-Corymbia calophylla-Eucalyptus guilfoylei on valleys at transition between granite hills and sedimentary plain with some Corymbia calophylla on slopes and Eucalyptus patens and Agonis juniperina on lower slopes in hyperhumid and perhumid zones (Mattiske and Havel, 1998).

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 application is to clear 11.9 ha of native vegetation for the purpose of silvicultural thinning. The application area is approximately 14 km south east of the Pemberton townsite.

The vegetation under application consists of a Karri-Marri-Jarrah closed forest, with a middle storey of Acacia pentadenia, Trymalium floribundum and a ground cover of Acacia urophylla, Acacia pulchella, Podocarpus drouynianus and Pteridium esculentum (DEC, 2011).There is evidence of past logging operation throughout the application area (DEC, 2011). The vegetation under application considered to be in an excellent (Kighery, 1994) condition (DEC, 2011).

Three priority flora species have been recorded within a 10km radius of the application. The closest mapped priority flora species is Thysanotus formosus (P1) which has been recorded approximately 7 km south from the proposed clearing. The priority species mapped within 10km of the application area, occur within different vegetation types, but on similar soils as those of the applied area. It is considered unlikely that the area under application will support priority flora species.

A site inspection of the area under application observed tree hollows within some large Marri trees (DEC 2011). As the proposal is for thinning rather than broadscale clearing, it is considered that the trees retained after thinning would provide habitat in the future and tree hollows will be retained at a rate of two per hectare (Ede and Walsh, 2011).

The local area (10km) surrounding the application is well represented with approximately 75 percent of its pre-European vegetation remaining.

Given that the local area (10km) has a high level of vegetation remaining and that the application is for silvicultural thinning opposed to broadscale clearing. The proposed clearing is not likely to comprise of a high level of biodiversity, nor is it likely to impact upon the biological diversity of the area. Therefore, the application as proposed is considered not likely to be at variance to this Principle.

Methodology

References:
- Eade and Walsh (2011)
- DEC (2011)
- Keighery (1994)

GIS Database:
- SAC Bio Datasets 21/11/2011

(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

Two conservation significant fauna species, Western Ringtail Possum (Pseudocheirus occidentalis) and the Quokka (Setonix brachyurus), have been recorded within the local area (10 km radius).

The area under application can be described as Karri-Marri-Jarrah closed forest, with the vegetation considered to be in an excellent (Keighery 1994) condition (DEC 2011). A site inspection of the area under application observed tree hollows within larger Marri trees under application (DEC, 2011).

As the proposal is for thinning rather than broadscale clearing, it is considered that the trees retained after thinning would provide habitat in the future and tree hollows will be retained at a rate of two per hectare (Ede and Walsh, 2011).

The local area is well vegetated, with approximately 75 percent native vegetation remaining including large areas of state forest. These areas are likely to be providing fauna habitat of greater local significance than the vegetation under application. Therefore, the clearing as proposed is considered not likely to be at variance to

this Principle.

Methodology References:
- Ede and Walsh (2011)
- DEC (2011)
- DEC (2007-)
- Keighery (1994)

GIS Database:
- DEC Tenure

(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**

One declared rare flora (DRF) species has been recorded within a 10km radius of the application area. Kennedia glabrata has been mapped occurring approximately 8 km west of the application area.

Kennedia glabrata consists of a pea flower and is a creeper that has a scarlet standard petal, with a yellow eye and a cerise keel. It inhabits shallow pockets of soil on granite outcrops, in association with mosses and herbs (Brown et al, 1998).

The recorded Kennedia glabrata species has been mapped as occurring within the same vegetation type as the application area, referred to as Beard vegetation type 3. However, has not been mapped within the same Mattiske vegetation complexes.. Additionally, the soil within the application area comprises of, steep hilly to hilly dissected lateritic plateau with steep valley side slopes: chief soils are hard, and also sandy, neutral, and also acidic, yellow and yellow mottled soils, with conspicuous but relatively smaller areas of red earths. (Northcote et al, 1960 - 1968). Kennedia glabrata prefer shallow pockets of soil on granite outcrops.

Given the distance from the application area to mapped Kennedia glabrata and that the application area is considered to comprise of soil unsuitable for Kennedia glabrata. It is unlikely that the vegetation under application would comprise of the mapped DRF species, therefore the application is not likely to be at variance to this principle.

Methodology Reference:
- Brown et al (1998-)
- Northcote et al (1960 - 1968)

GIS Database:
- SAC Bio Datasets 21/11/2011

(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 at variance to this Principle**

There are no known Threatened Ecological Communities (TECs) within a 10km radius of the area under application. The closest known TEC is mapped approximately 70km from the application area.

Given the above, it is not considered likely that the vegetation under application comprises or is necessary for the maintenance of a TEC. The application is not at variance to this principle.

Methodology GIS Database:
- SAC Bio Datasets 21/11/2011

(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 is described as Beard vegetation type 3 and 1144 of which both have approximately 80 percent (Shepherd 2009) of their pre-European extent remaining within the Warren bioregion. In addition, the vegetation under application is also described as Mattiske vegetation types Crowea (Cry), Granite Valley S1 and Granite Valley V1, of which there is approximately 74, 87 and 94 percent (Mattiske and Havel 1998) of their pre-European extent remaining within the State, respectively.

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 remaining percentages of vegetation types mapped are above the minimum of 30 percent threshold. Additionally, there is still a large percentage of vegetation remaining in the local area, with approximately 75 percent of its pre-European vegetation remaining within a 10 km radius of the application.

Given the extent of vegetation remaining in the local area and the high representation of the mapped vegetation types, the local area is not considered to be extensively cleared and the vegetation under application is not

considered to be significant. Therefore, the clearing as proposed is considered not likely to be at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion				
Warren	833,981	667,164	80	82
Shire				
Shire of Manjimup	697,370	589,248	84	92
Beard Vegetation Association in Bioregion				
3	250,262	200,890	80	84
1144	159,668	127,144	80	90
Mattiske Vegetation Complex				
Cry	33,764	25,111	74	81
S1	25,513	22,291	87	77
V1	2,285	2,142	94	67

Methodology

References:
- Commonwealth of Australia (2001)
- Mattiske and Havel (1998)
- Shepherd (2009)

GIS Databases:
- Pre-European Vegetation
- Mattiske Vegetation Complexes
- NLWRA, Current Extent of Native Vegetation
- Interim Biogeographic Regionalisation of Australia

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

Comments

Proposal is not likely to be at variance to this Principle

A minor perennial watercourse is mapped within the Warren State forest, approximately 50 metres north of the boundary of the area under application.

Given that the vegetation under application is not within the mapped watercourse, the application is not likely to be at variance to this principle.

Methodology

GIS Databases:
- DEC Tenure
- Hydrography, linear

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

Comments

Proposal is not likely to be at variance to this Principle

The area under application and the surrounding area are mapped as soil type is Uc1, which is described as 'Soils Steep hilly to hilly dissected lateritic plateau with steep valley side slopes: chief soils are hard, and also sandy, neutral, and also acidic, yellow and yellow mottled soils, with conspicuous but relatively smaller areas of red earths' (Northcote et al, 1960 - 1968).

The application is for silvicultural thinning and the proponent has committed to retaining a minimum basal area of 14 to 16 m2/ha (Ede and Walsh, 2011). Given the proposed clearing is for thinning and not broad scale clearing, the proposal is not considered likely to cause appreciable land degradation.

The application is not likely to be at variance to this principle.

Methodology

References:
- Ede and Walsh (2011)
- Northcote et al (1960-8)

GIS Database:
- Soils, statewide

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments

Proposal may be at variance to this Principle

The Warren State Forrest borders the northern boundary of the application area. The proposed clearing may indirectly impact on the environmental values of the adjoining conservation reserves through the spread or introduction of weed species or dieback by machinery.

Given the possible indirect impact through the spread of weeds and dieback, it is considered likely that the clearing as proposed may impact on the environmental values of nearby conservation areas. Therefore, the clearing as proposed may be at variance to this Principle.

Weed control and dieback management practices will mitigate any impacts from the proposed clearing.

Methodology

GIS Database:
- DEC, tenure

(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

A minor perennial watercourse is mapped within the Warren State forest, approximately 50 metres north from boundary of the area under application. A recent site inspection undertaken by DEC recorded no signs of surface water within the application area (DEC, 2011).

Given the above, it is considered unlikely the proposed clearing will cause the deterioration in surface or groundwater in the local area.

The application is not likely to be at variance to this principle.

Methodology

Reference:
- DEC (2011)

GIS Database:
- DEC Tenure
- Hydrography, linear

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments

Proposal is not likely to be at variance to this Principle

Given the application is for silvicultural thinning and a minimum basal area of 14 to 16 m2/ha will be maintained (Ede and Walsh, 2011), the proposal is not likely to cause or exacerbate the incidence or intensity of flooding. Therefore, the clearing as proposed is not likely to be at variance to this Principle.

Methodology

Reference:
- Ede and Walsh (2011)

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

Comments

The proposed clearing site (Lot 240) lies within the Country Areas Water Supply Act 1947 (CAWS Act) gazetted Warren River Water Reserve (DoW, 2011). The Warren River catchment has been subject to CAWS Act native vegetation clearing controls since December 1978 to prevent salinisation of water resources (DoW, 2011). Lot 240 is located in Zone D, a low salinity risk part of the catchment, where Department of Water (DoW) Policy and Guidelines for the Granting of Licences to Clear Indigenous Vegetation provide for the grant of a licence for millable timber and silvicultural works subject to the exclusion of any riparian areas and associated buffers (DoW, 2011). In this case there doesn't appear to be any riparian areas in the proposed silvicultural treatment area, consequently DoW has no objection to the proposal (DoW, 2011).

In relation to the application for clearance of native vegetation, referred to the Shire of Manjimup (2011), that there is no planning or other matters which would affect the proposal.

The applicant advises in the forest management plan that a commercial producers licence is still required under the Wildlife Conservation Act 1950 (Ede and Walsh, 2011).

Methodology

Reference:
- DoW (2011)
- Ede and Walsh (2011)
- Shire of Manjimup (2011)

4. References

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

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/. Accessed 21/11/2011

DEC (2011) Site Inspection Report for Clearing Permit Application CPS 4689/1, Lot 240 Wheatley Coas Road, Crowea. Site inspection undertaken 12/12/2011. Department of Environment and Conservation, Western Australia. DEC Ref A463475

Department of Water (2011) Direct Interest Submission for Clearing Permit Application CPS 4689/1. DEC Ref A455923

Ede, Brain R and Walsh, Anne C. (2011) Native Forest Management Plan for 2503 Wheatley Coast Road, Crowea. DEC Ref A446415

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. (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 Manjimup (2011) Direct Interest Submission for Clearing Permit Application CPS 4689/1. DEC Ref A453331

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)