

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 5058/1

File Number: 2012/003475-1

Duration of Permit: From 10 August 2012 - 10 August 2019

PERMIT HOLDER

Stephanie Alison Waugh

LAND ON WHICH CLEARING IS TO BE DONE

Lot 9767 on Deposited Plan 203103 (Glenoran 6258)

Lot 9768 on Deposited Plan 203103 (Glenoran 6258)

Lot 9770 on Deposited Plan 203103 (Glenoran 6258)

Lot 9766 on Plan 153017 (Glenoran 6258)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 49.6 hectares of native vegetation within the area hatched yellow on attached Plan 5058/1.

CONDITIONS

1. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 10 August 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 5058/1:

- (a) clearing and burning of understorey;
- (b) thinning of Marri (Corymbia calophylla) or Karri (Eucalyptus diversicolor) trees; and
- (c) 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

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.

6. 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 14m²/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) The permit holder shall not clear native vegetation within 30 metres of the riparian vegetation of any watercourse or wetland within and/or adjacent to the area crosshatched yellow on Plan 5058/1.
- (f) Within two years of 10 August 2014, the Permit Holder must:
 - 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 6(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.

7. 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).
- (c) In relation to vegetation management pursuant to condition 6 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.

8. 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 7 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 10 May 2019, the Permit Holder must provide to the CEO a written report of record required under condition 7 of this Permit where these records have not already been provided under condition 8(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;

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;

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.

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.

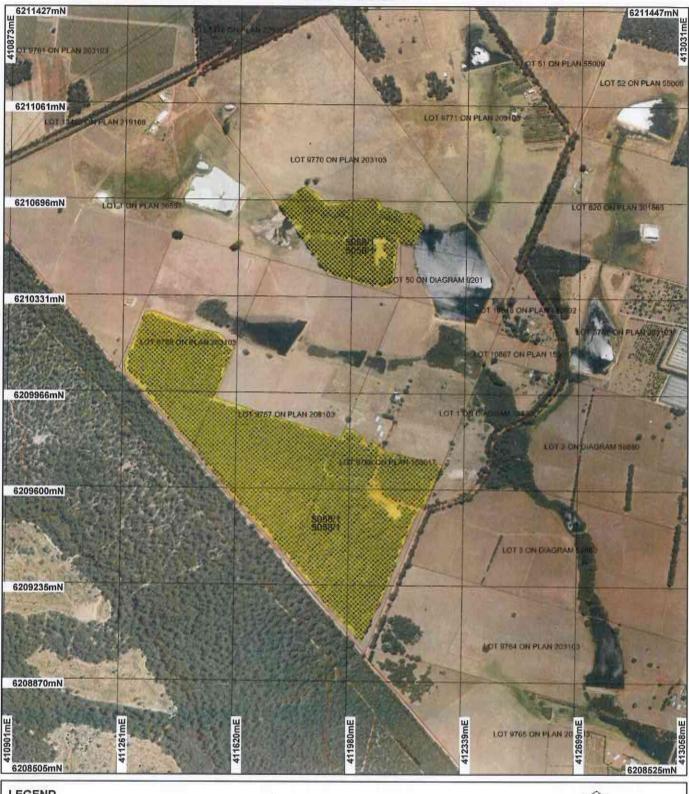
Kelly Faulkner MANAGER

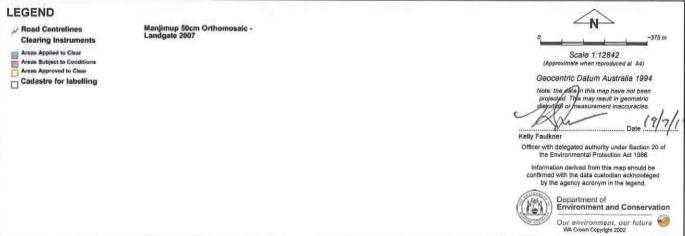
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20 of the Environmental Protection Act 1986

19 July 2012

Plan 5058/1







Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.:

5058/1

Permit type:

Area Permit

1.2. Proponent details

Proponent's name:

Stephanie Alison Waugh

1.3. Property details

Property:

49.6

LOT 9770 ON PLAN 203103 (GLENORAN 6258) LOT 9768 ON PLAN 203103 (GLENORAN 6258) LOT 9767 ON PLAN 203103 (GLENORAN 6258)

LOT 9766 ON PLAN 153017 (House No. 260 WAUGHS GLENORAN 6258)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)

No. Trees

Method of Clearing

Cutting

For the purpose of: Restoration

1.5. Decision on application

Decision on Permit Application:

Decision Date:

Grant

19 July 2012

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation under application has been mapped as Beard vegetation association 1144 is described as Tall forest; karri & marri (Corymbus calophylla). (Shepherd et al 2001)

Mapped Mattiske vegetation complex CRb is described as Tall open forest of Corymbia calophylla-Eucalyptus diversicolor on upper slopes with Allocasuarina decussata-Banksia grandis on upper slopes in hyperhumid and perhumid zones. (Mattiske and Havel, 1998).

Mapped Mattiske vegetation complex CRy is described as Tall open forest of Corymbia calophylla with mixture of Eucalyptus marginata subsp. marginata and Eucalyptus diversicolor on uplands in hyperhumid and perhumid zones. (Mattiske and Havel, 1998).

Mapped Mattiske vegetation complex YN1 is described as Mixture of tall open forest of Eucalyptus diversicolor and tall open forest of Corymbia calophylla-Eucalyptus patens-Eucalyptus marginata subsp. marginata over Agonis flexuosa and Agonis juniperina on valleys in perhumid and humid zones. (Mattiske and Havel, 1998).

Clearing Description

The application is to selectively thin 49.6 ha of native vegetation for the purpose of silvicultural thinning.

The vegetation within the application predominately consists of Karri (Eucalyptus diversicolor) regrowth forest with Marri (Corymbia Calophylla). The forest consists of good quality pole stands and a two tiered forest resulting from past clearing and harvesting. (Waugh, 2012).

Vegetation Condition

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

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)

Comment

The condition and the description of the vegetation under application has been determined by aerial imagery (Manjimup 50cm - Orthomosaic Landgate 2007) and supporting information supplied by the applicant. (Waugh 2012)

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 selectively thin within 49.6 hectares of native vegetation for the purpose of silvicultural thinning.

The proposed clearing area is predominately Karri (Eucalyptus Diversicolor) regrowth forest with Marri (Corymbia Calophylla) (Waugh, 2012).

Six priority flora species have been recorded within the local area (10km). The closest known record being Pultenaea pinifolia (Priority three) located approximately 5 km south west of the application area. Pultenaea pinifolia is found on loam or clay within floodplains, swampy areas, the Forest Management Plan advises no clearing will be undertaken within 30m of creek lines and swamps therefore it is unlikely the clearing proposed will impact this specie. The proposed clearing is for selective thinning of Karri species however ground cover may be damaged as a result of the proposed works. If priority flora is located within the application area it may be inadvertently impacted. However, the proposed clearing will not directly remove this species from the application area and therefore the conservation status of this species should not be impacted.

Numerous fauna species have been recorded within the local area (10km) including Calyptorhynchus banksii subsp. naso (Forest Red-tailed Black-Cockatoo) and Calyptorhynchus baudinii (Baudin's Cockatoo). The area under application is unlikely to provide breeding habitat for Black Cockatoo species as the vegetation under application is predominately regrowth and therefore had limited development of suitable hollows (DEC 2012). The Forest Management Plan (Waugh 2012) advises habitat trees will be retained at a rate of two per hectare. As the proposal is for thinning rather than broad scale clearing, the trees retained after thinning will provide habitat in the future. In addition, the local area (10km) has approximately 60 percent of its pre-European vegetation remaining and therefore it is considered for the local area to contain similar habitat as within the application area.

Given that the local area (10km) has a high level of vegetation remaining and that the application is for silvicultural thinning opposed to broad scale 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 not likely to be at variance to this Principle.

Methodology

References:

- DEC 2012
- Waugh (2012)
- Keighery (1994)

GIS Database:

- Majimup 50cm Orthomosaic Landgate 2007
- SAC Bio Datasets 9 July 2012

(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

Numerous fauna species which are rare or likely to become extinct under the Wildlife Conservation Act 1950 including; Bettongia penicillata subsp. ogilbyi (Woylie), Calyptorhynchus banksii subsp. naso (Forest Red-tailed Black-Cockatoo), Calyptorhynchus baudinii (Baudin's Cockatoo), Dasyurus geoffroii (Chuditch), Pseudocheirus occidentalis (Western Ringtail Possum) and Setonix brachyurus (Quokka) have been recorded within the local area (10km radius) (DEC 2007-).

There is a large amount of native vegetation remaining (approximately 60%) within the local area which is likely to contain similar habitat values as the application area. Aerial photography indicates that adequate vegetation and associated corridors within the area under application (and adjoining land parcels) will remain post thinning.

The application is unlikely to provide nesting habitat for Black Cockatoo species as the vegetation under application is predominately regrowth and therefore had limited development of suitable hollows. Potential habitat trees have a diameter, at average adult human chest height, of greater than 50cm, 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.

The Native Forest Management Plan for the proposed silviculture states that approximately 2 habitat trees per hectare will be retained (Waugh, 2012). The trees remaining post thinning will provide future fauna habitat.

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

Methodology

References:

- -DEC (2012)
- Waugh (2012)

- DEC (2007-)

GIS Database:

-Manjimup 50cm - Orthomosaic Landgate 2007

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

Comments

Proposal is not likely to be at variance to this Principle

Two known records of declared rare flora (DRF) have been recorded within the local area (10 km). Andersonia annelsii and Caladenia christineae are located approximately 9 km west from the proposed clearing area on different vegetation type but the same soil type.

Caladenia christineae is described as a tuberous, perennial herb found within margins of winter-wet flats, swamps, & freshwater lakes (Western Australian Herbarium 1998-). The application area consists of marri and Karri regrowth in very good condition and does not contain swamp areas. Therefore, it is not considered for the application area to contain suitable habitat for this species.

Andersonia annelsii is described as a low shrub found on sandy loam or clay skeletal soils and low quartzite ridges, granite outcrops (Western Australian Herbarium 1998-).). The application area consists of Karr and Marri (Waugh 2012) over yellow mottled soils with ironstone gravels (Northcote et al 1960-68) and does not contain low quartzite ridges or granite outcrops. Therefore it is not considered for the application area to contain suitable habitat for this species.

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

Methodology

References:

- -Western Australian Herbarium 1998-
- -Northcote et al (1960-68)

GIS Database:

- -SAC Bio Datasets 16/3/2012
- -Soils, statwide

(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 located within the local area (10 km). The closest TEC is the 'Scott Ironstone Associations' located approximately 51km south west of the application area.

Given the distance to the known TEC, it is not considered for the proposed clearing to be at variance to this principle.

Methodology

-SAC Bio Datasets - accessed 9 July 2012

(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 area under application is located within the Warren Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 80 per cent of its Pre European vegetation extent remaining (Government of Western Australia 2011). The application occurs within the Shire of Manjimup which has approximately 47 per cent of its Pre European vegetation extent remaining. (Government of Western Australia)

The vegetation under application is mapped as Beard Vegetation Association is 1144 which has approximately 79 per cent of its Pre European extent remaining in the Warren bioregion (Government of Western Australia 2011). The vegetation under application is also mapped as Mattiske Vegetation Complexes CRb, Cry and YN1 which have approximately 88, 74 and 82 per cent of their Pre European extent remaining respectively (Mattiske and Havel 1980).

Digital imagery (Manjimup 50cm Orthomosaic – Landgate 2007) indicates that the local area (10 km radius) surrounding the area under application retains approximately 60 per cent vegetation cover.

The Beard vegetation association retains more than the threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

Given this and that the local area of the proposed clearing is 60% vegetated, it is not considered for the vegetation under application to be significant as a remnant in an extensively cleared landscape.

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

	Pre-European	Current Extent Remaining		Extent in DEC Managed Lands
	(ha)	(ha)	(%)	(%)
IBRA Bioregion*	(2842 (55)	30000	0.000 E-0.00	VEX.0446
Warren	833,982.00	664,123.16	80	83
Shire*				
Shire of Manjimup	67,698	32,088	47	50.7
Beard Vegetation Associat	ion in Bioregion*			
1144	159,668.36	126,978.72	79	91
Mattiske Vegetation Comp	lex **			
CRb	52,753.26	46,468.27	88%	83
Cry	33,764.55	25,111.89	74.37%	67
YN1	19,512.64	15,993.48	81.96%	75

^{*}Government of Western Australia (2011)

Methodology Reference:

- -Government of Western Australia (2011)
- -Commonweath of Australia (2001)
- Mattiske and Havel (1998)

GIS Databases:

- Donnelly 50cm Orthomosaic Landgate 2007
- IBRA Australia
- Local Government Authority
- Pre-European vegetation
- NLWRA, Current Extent of Native Vegetation

(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

There are numerous minor perennial watercourses within the local area (10km radius). One minor watercourse intersects the northern section of the application area.

The Forest Management Plan (Waugh 2012) advises no harvesting of native vegetation will occur within 30 metres of creek lines and swamps.

However, as the application area contains vegetation growing in association with a watercourse, the proposed clearing is at variance to this Principle.

Watercourse management practices will help mitigate the impact on watercourses within the application area.

Methodology

Reference:

Waugh (2012)

GIS Databases:

-Hydrology, 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 is mapped as soil type Tc6 and is described as 'Undulating to hilly portions of dissected lateritic plateau at moderate elevation: chief soils are hard acidic and neutral yellow mottled soils containing small to large amounts of ironstone gravels' (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 meters squared per hectare (Waugh, 2012). 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.

^{**}Mattiske and Havel (1998)

Methodology

References:

- Northcote et al (1960-8)
- Waugh (2012)

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 application area is mapped approximately 20m from Donnelly State Forest.

As the clearing proposed is for silvicultural thinning it is unlikely that it will sever any ecological linkages to this conservation area.

Given the close proximity of the application area to the conservation area there is a likelihood of weed and dieback spreading into theses areas from the clearing activities. Weed and dieback management practices will help mitigate this risk.

Therefore, the proposed clearing may be at variance to this principle.

Methodology

GIS Databases:

-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

The application area falls within the unassigned Public Drinking Water Source area of 'Warren River Water Reserve' and zone D of the 'Warren River Water Reserve' catchment area covered by the Country Areas Water Supply Act, 1947.

The Department of Water advise that zone D is a low risk part of the catchment and the timber harvest works be subject to a Forest Management Plan, retention of a basal area of at least 14 metres squared per hectares over the area, exclusion of riparian areas and associated buffers and exclusion of grazing by livestock from the area (DOW, 2012). The proponent has submitted a Forest Management Plan (Waugh, 2012) which meets much of the above criteria, except to that relating to grazing. The proponent will be advised that no stock is to graze on the application area post clearing.

A minor watercourse is located within the northern section of the application. The retention of a 30 meter buffer should be sufficient to protect the surface water of this watercourse.

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

Methodology

Reference:

Dow (2012)

GIS Databases:

- Hydrology, 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 meters squared per hectare will be maintained (Waugh, 2012), 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:

-Waugh (2012)

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

Comments

The Shire of Manjimup has advised that there is no planning or other matters which would affect the proposal (Shire of Manjimup, 2012).

A Commercial Producer's licence under the Wildlife Conservation Act 1950 from DEC is required for the purpose of selling harvested logs.

Application area falls within the Warren River and Tributaries Surface Water Area under the Rights in Water Irrigation Act 1914.

The proposed clearing site lies within Warren River Water Reserve gazetted under the Country Areas Water Supply Act 1947 (CAWS Act) (DoW, 2012). The lot is not currently located in a Public Drink Water Source Area hence no priority source protection has been assigned or is proposed. The application area is located in Zone D a low salinity risk part of the catchment, where DoW (2012) advise timber harvest works be subject to a Forest Management Plan, retention of a basal area of at least 10m2 over the area, exclusion of riparian areas and associated buffers and exclusion of grazing by livestock from the area (DOW, 2012).

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, 2004; DEC, 2005).

Methodology

Reference: DEC (2004)

DEC (2005) DoW (2012)

Shire of Manjimup (2012)

4. References

DEC (2004) Silvicultural Practice in the Jarrah Forest, Department of Environment and Conservation. SFM Guideline No.1

DEC (2005) Silvicultural Practice in the Karri Forest. Department of Environment and Conservation. SFM Guideline No.3

DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/. Accessed 9/7/2012

DEC (2012) Site Inspection Report for Clearing Permit Application CPS 5058/1, Lots 9766 on Plan 153017 and Lots 9767, 9768 and 9770 on Deposited Plan 203103, Glenoran. Site Inspection undertaken 18/07/2012. Department of Environment and Conservation, Western Australia. (DEC Ref. A52353)

DoW (2012) Advice for Clearing Permit CPS 5057/1 - S.A. Waugh, Lots 9766, 9767, 9768 and 9770.. Department of Water. Western Australia. (DEC Ref: A478969)

Government of Western Australia (2011); 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.

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., 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 (2012) Advice for Clearing Permit CPS 4858/1. Western Australia. (DEC Ref: A514584)

Waugh, S.A (2012) Native Forest Management Plan. Western Australia. (DEC Ref:A504656)

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 WRC Threatened Ecological Community Water and Rivers Commission (now DEC)