



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4117/1
Permit Holder:	Garry Robert and Linda Margaret Brooke Back
Duration of Permit:	14 March 2011– 14 March 2019

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 selective timber harvesting.

2. Land on which clearing is to be done

Lot 24 on Diagram 89000

3. Area of Clearing

The Permit Holder must not clear more than 181 hectares of native vegetation within the area hatched yellow on attached Plan 4117/1.

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. Type of clearing authorised

To the extent authorised under condition 3 of this Permit, the Permit Holder may undertake the following activities within the area(s) cross-hatched yellow on Plan 4117/1:

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

- (i) clearing and burning of *understorey*;
- (ii) *thinning* of Jarrah (*Eucalyptus marginata*), Marri (*Corymbia calophylla*) and Wandoo (*Eucalyptus wandoo*); and
- (iii) *culling* and burning of unsaleable trees.

(b) The Permit Holder shall not clear any native vegetation after 14 March 2015, being four years from the date from which this permit becomes valid.

6. Compliance with Assessment Sequence and Management Procedures

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (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. 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.

(b) At least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

9. 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 5 *habitat trees* within the area of clearing authorised under this Permit in each hectare authorised under this Permit.

(c) A minimum retention rate of 15m²/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 14 March 2015, 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 9(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.

PART III - RECORD KEEPING AND REPORTING

10. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

(a) In relation to the clearing of native vegetation authorised under this Permit:

- (i) the species composition, structure and density of the cleared area;
- (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (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 9 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 or decimal degrees;
 - (iv) monitoring undertaken to ensure that the specified minimum *basal area* is retained;
 - (v) photographs of the *understorey* taken at one year, two years and three years after clearing authorised under this Permit has ceased; and
 - (vi) 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:
 - (i) of records required under condition 10 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 14 December 2018, 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, 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;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

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 50 kilometres of the area cleared.

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*;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) 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 natural *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;

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*.

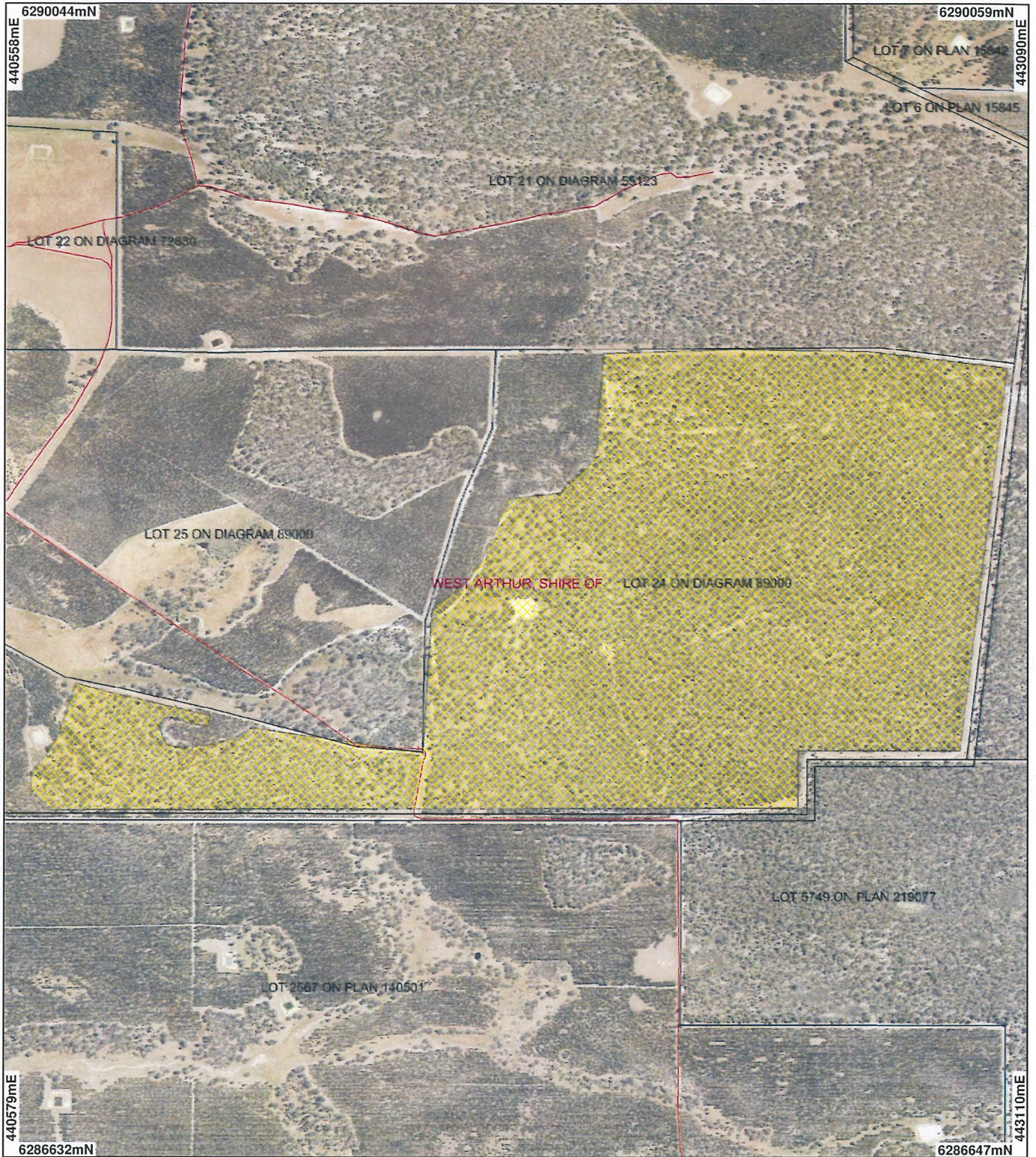


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

17 February 2011

Plan 4117/1



LEGEND

- Road Centrelines
- Local Government Authorities
- Clearing Instruments**
- Areas Approved to Clear
- Cadastre for labelling
- Bridgetown 50cm Orthomosaic - Landgate 2004



0 375 m

Scale 1:15000

(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.

Date 17/2/11
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

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1. Application details

1.1. Permit application details

Permit application No.: 4117/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Garry Robert and Linda Margaret Brooke Back

1.3. Property details

Property: LOT 24 ON DIAGRAM 89000 (House No. 1166 BOWELLING-MCALINDEN BOWELLING 6225)
LOT 24 ON DIAGRAM 89000 (House No. 1166 BOWELLING-MCALINDEN BOWELLING 6225)

Local Government Area: Shire of West Arthur

Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 17 March 2011

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
Shepherd (2009) describes Beard vegetation 3 as Medium forest; jarrah-marri.	The overstorey of the area under application consists predominantly of Eucalyptus marginata and Corymbia calophylla with stands of E. wandoo occurring in the western section of the applied area.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The condition rating of the application area was established through a site visit conducted by DEC officers in January 2011 (DEC 2011).
Mattiske Veg association - Swamp (S): Mosaic of low open woodland of Melaleuca preissiana-Banksia littoralis, closed scrub of Myrtaceae spp., closed heath of Myrtaceae spp. and sedgelands of Baumea and Leptocarpus spp. on seasonally wet or moist sand, peat and clay soils on valley floors in all climatic zones.	Understorey species include Xanthorrhoea preissii, Persoonia longifolia, Hakea amplexicaulis, Hakea lissocarpa and Bossiaea linophylla and these occurred in varying densities throughout the applied area. There were also particular stands of species such as Xanthorrhoea preissii, Banksia grandis, Banksia attenuata, Banksia sessilis and Allocasuarina fraseriana. At point 2 within a moister area, there was a stand of Melaleuca raphiophylla trees. Groundcover was sparse or non-existent in some sites and consisted of shrub and herb species such as Macrozamia riedlei, Xanthorrhoea gracilis, Hibbertia hypericoides and various sedge species. No weed species were observed at any of the sites inspected within the applied area.		
Mattiske Veg association - Dwellingup 4 (D4): Open forest to woodland of Eucalyptus marginata subsp. thalassica-Corymbia calophylla on lateritic uplands in semiarid and arid zones.			
Mattiske Veg association - Wilga (WG): Woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla on sandy-gravels on low divides in the subhumid zone.			
Hedde Veg association -			

Dwellingup Yalanbee And
Hester Complex In Low To
Medium Rainfall

Hedde Veg association -
Pindalup And Yarragil
Complex In Low To
Medium Rainfall

As above

As above

Good: Structure
significantly altered by
multiple disturbance;
retains basic
structure/ability to
regenerate (Keighery
1994)

As above

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 proposed clearing of 181ha of native vegetation is for timber harvesting. The proposed clearing is to occur over Lot 21 on Diagram 98184, Bowelling in the Shire of West Arthur.

The over storey of the area under application consists predominantly of *Eucalyptus marginata* and *Corymbia calophylla* with stands of *E. wandoo* occurring in the western section of the applied area. Understorey species include *Xanthorrhoea preissii*, *Persoonia longifolia*, *Hakea amplexicaulis*, *Hakea lissocarpha* and *Bossiaea linophylla* and these occurred in varying densities through out the applied area. There were also particular stands of species such as *Xanthorrhoea preissii*, *Banksia grandis*, *Banksia attenuata*, *Banksia sessilis* and *Allocasuarina fraseriana*. There is also a moister area with a stand of *Melaleuca raphiophylla* trees. Groundcover was sparse or non-existent in some sites and consisted of shrub and herb species such as *Macrozamia riedlei*, *Xanthorrhoea gracilis*, *Hibbertia hypericoides* and various sedge species. No weed species were observed at any of the sites inspected within the applied area (DEC 2011). The vegetation varies from good to very good (Keighery 1994) condition with the majority of the applied area being very good.

Within the local area (11km radius) there are four fauna species of conservation significance recorded and three priority flora species recorded. The predominantly very good (Keighery 1994) condition of the vegetation throughout the applied area and the variation in vegetation types creates a variety of habitat for native fauna. The abundance of hollow logs on the ground would provide habitat for chuditch and many of the trees including marri and wandoo showed evidence of hollows which would provide habitat to black cockatoos, brushtail possums and brushtail phascogales. Given the extent of remaining vegetation within the local area (50%) the proposed clearing is may impact on local fauna populations or flora of conservation significance. Forest Management Plan states that 5 habitat trees and 5 ground logs per hectares will be retained as a minimum.

The proposal is to selectively thin jarrah, marri and wandoo trees. As the proposed clearing area is adjacent to Muja Conservation Park, recruitment post clearing should occur. Weed and dieback management should be undertaken to mitigate the spread or introduction of weeds and dieback into the reserve.

Given the large size of the area under application and the potential habitat value for flora and fauna, the 181 ha of vegetation under may comprise a locally high level of biological diversity and therefore, the clearing as proposed may be at variance to this Principle.

Methodology References
DEC (2011)
Keighery (1994)
GIS databases
- Sac Biodatasets - accessed December 2010
- Bridgetown 50cm Orthomosaic - Landgate 2004

(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**

Four conservation significant species were recorded in the local area (~11km radius) of the area under application. The Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii*), was recorded 8.8km south of the applied area and the Western Brush Wallaby (*Macropus irma*) was recorded 9.6 km south of the application area.

The predominantly 'very good' (Keighery 1994) condition of the vegetation throughout the applied area and the variation in vegetation types creates a variety of habitat for native fauna. Western grey kangaroos were the only species evident within the area, seen by the abundance of scats, pads and grazing of groundcover as well

as several sightings of kangaroos.

The abundance of hollow logs on the ground would provide habitat for chuditch and many of the trees including marri and wandoo showed evidence of hollows which would provide habitat to black cockatoos, brushtail possums and brushtail phascogales. It's also likely that southern brown bandicoot inhabit vegetation in the lower lying areas on the south-western boundary of the eastern section. Another species with the potential to occur in the area is the woylie due to favourable habitat on the eastern side of the applied area. A translocation of woylies was carried out around 1998 in nearby Centaur forest block (approximately 13 km north-west of the applied area), however the low number of woylies currently trapped there would mean there is a small chance of dispersal to the applied area (DEC 2011).

Given the nature of the clearing there will be some disturbance to this habitat but only in the short term and only to some areas of the forest. The area proposed to be cleared is surrounded by state forest and national parks which are likely to be providing some habitat. Additionally, the Forest Management Plan advises that potential habitat trees will be retained at the rate of five per hectare, as well as five ground logs.

Given the above, the clearing as proposed may be at variance to this Principle.

Methodology References
-DEC (2011)
-Keighery (1994)
GIS Databases
-SAC Bio Datasets - accessed December 2010

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

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

There were only two records of rare flora species recorded in the local area (10 km radius) including Drakaea confluens, which is recorded 5 times, the closest is 6km south east of the application area on the same soil type and vegetation type.

The local area is vegetated, with approximately 50% native vegetation remaining including large areas of state forest and national parks. Vegetation and soil types within the area are common and found in secure tenure. Given the previous disturbances within the application area, These conservation areas are likely to be providing flora habitat of greater local significance than the vegetation under application.

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

Methodology GIS Databases
-SAC Bio Datasets - accessed December 2010

(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 were no records of threatened ecological communities recorded within the local area (11km radius) of the area under application.

Given this the proposal is not likely to be at variance to this principle.

Methodology GIS Databases
-SAC Bio Datasets - accessed December 2010

(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**

Clearing of selective Marri, Jarrah and Wandoo trees is unlikely to be at variance to this principle.

	(ha)	(ha)	(%)
IBRA Bioregions*			
Jarrah Forest	4 506 656.99	2 514 549.90	55.80
Shire*			
Shire of West Arthur	283 182.44	99 281.83	35.06
Beard Vegetation Association*			
3	2 661 088.00	1 862 948.13	70.01

Beard Vegetation Association within Bioregion*			
3	2 390 591.59	1 657 963.50	69.35
Mattiske Vegetation Association**			
D4- Dwellingup	132 415.59	118 517.44	89.50
Mattiske Vegetation Association**			
S- Swamp	53 657.09	42 342.09	78.91
Mattiske Vegetation Association**			
WG- Wilga	38 161.86	26 519.16	69.49
Hedde Vegetation Association***			
Dwellingup Yalanbee And Hester\Complex In Low To Medium Rainfall	122 752.53	106 401.38	86.68
Hedde Vegetation Association***			
Pindalup And Yarragil Complex\In Low To Medium Rainfall	94 508.82	72 258.24	76.46
* (Shepherd et al. 2009)			
** (Mattiske and Havel 2002)			
*** (Hedde et al 1980)			

Methodology References:
Havel and Mattiske (2002)
Hedde et al (1980)
Shepherd (2009)
GIS Databases:
- 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 not likely to be at variance to this Principle**
There were no records of watercourses or wetlands within the local area (11km radius) of the area under application.

Given this the proposal is not likely to be at variance to this principle.

Methodology GIS Databases
-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**
Soils within the applied area were grey and sandy in the lower lying western section of the applied area and the remainder of the sites visited in the applied area were lateritic. There was a general western aspect across the applied area (DEC 2011). It is unlikely that erosion will increase due to the proposed clearing as the 181ha is to be selectively cleared (i.e. not clear felled).

Given the proposed clearing is for thinning, the proposal is not considered likely to cause appreciable land degradation and therefore is not likely to be at variance to this clearing principle.

Methodology References
DEC (2011)
GIS Databases
-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 area proposed to be cleared is adjacent to Muja Conservation Park (R46362). Within the local area (10km radius) there is also Greater Preston National Park R47661 and Muja and Wilga State Forest.

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. The consequences associated with the spread of such exotic species into areas reserved for conservation, include the significant degradation of the reserve and the potential local extinction of species.

Given the 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 and dieback management would mitigate any impacts to surrounding conservation areas from the proposed clearing

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 may be at variance to this Principle

Application area falls within the Irrigation district 'Collie River' area covered by the Rights in Water and Irrigation Act 1914 and the 'Wellington Dam Catchment Area' a zone A Surface water area covered by the Country Areas Water Supply Act, 1947. Groundwater salinity is mapped as 500-1000 (medium).

Significant clearing of native vegetation has already occurred on agricultural land within the local area and further clearing may result in increased groundwater salinity. Therefore this proposal may be at variance to this principle.

Methodology -Hydrography linear,
-Topography, statewide
-Groundwater Salinity

(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

There are no watercourses or wetlands within the area proposed for clearing. Given the sandy nature of the soil within the application area (Northcote et al 1960-68) and the scale of the proposed clearing, it is considered that the proposed clearing is not likely to be at variance to this Principle.

Methodology References
-Northcote et al (1960-68)
GIS Databases
-Soils, statewide
-Hydrography linear

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

Comments

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, 2004a; DEC, 2004b)

The area proposed to be cleared lies within Zone A of the Wellington Dam Catchment Area 'Country Areas Water Supply Act 1947'. DoW records show a CAWS Act licence to clear application was refused and compensation was paid in 1981 to a previous owner to retain all the native vegetation on Lot 24 prior to subdivision of Wellington Location 4106. A CAWS Act licence was previously granted in April 2007 for the land applied to be cleared, which has recently been extended in June 2010.

A required exclusion of grazing by livestock from the forest management area has been secured through a Soil and Land Conservation Act 1945 Agreement to Reserve that was executed in March 2007.

A Commercial Producers Licence remains outstanding for this proposal.

Town Planning Scheme Zone: Rural

Application area falls within the Irrigation district 'Collie River' area covered by the Rights in Water and Irrigation Act 1914.

Application area falls within PDWSA 'Wellington Dam Catchment' which is a Priority not assigned catchment area.

Methodology

References

DEC (2004a)

DEC (2004b)

DoW (2011)

GIS Databases

- Town Planning Schemes

- RIWI, Surface Water Areas, Irrigation Districts

- Public Drinking Water Source Areas (PDWSA)

4. References

DEC (2011) Site Inspection Report for Clearing Permit Application CPS 4117/1, Lot 24 on Diagram 89000, Bowelling. Site Inspection undertaken 31/01/2011. Department of Environment and Conservation, Western Australia. (DEC Ref:

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)