



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3628/1
File Number: DEC14603
Duration of Permit: from 15 August 2010 to 15 August 2014

PERMIT HOLDER

Richard Arthur Lilley

LAND ON WHICH CLEARING IS TO BE DONE

Lot 1173 on Plan 108450 (Lot No. 1173 Blackwood Park Hester Brook 6255)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than

- (a) 10 hectares of native vegetation within the area cross-hatched yellow on attached Plan 3628/1a;
- (b) 5 hectares of native vegetation within the area cross-hatched yellow on attached Plan 3628/1b;
- (c) 4 hectares of native vegetation within the area cross-hatched yellow on attached Plan 3628/1c;
and
- (d) 1 hectare of native vegetation within the areas cross-hatched yellow on attached Plan 3628/1d.

CONDITIONS

1. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation authorised under this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

2. Type of clearing authorised

- (a) To the extent authorised under this Permit, the Permit Holder may undertake clearing within the areas cross-hatched yellow on Plan 3628/1a and Plan 3628/1b and Plan 3628/1c.
- (b) To the extent authorised under this Permit, the Permit Holder may undertake the following activities within the areas cross-hatched yellow on Plan 3628/1d:
 - (i) clearing and burning of *understorey*;
 - (ii) *thinning* of Jarrah (*Eucalyptus marginata*) and Marri (*Corymbia calophylla*) trees; and
 - (iii) *culling* and burning of unsaleable trees.

3. 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 *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.

4. Vegetation management

- (a) The Permit Holder shall not clear native vegetation within 30 metres of the *riparian vegetation* of any *watercourse* or *wetland*.
- (b) The Permit Holder shall not remove any *habitat trees*.
- (c) A minimum of 150 tree stems per hectare is to be retained within the areas cross-hatched yellow on Plan 3628/1d.

Definitions

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

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;

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

habitat tree/s means trees that have a diameter, at average adult human chest height, of greater than 70cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

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

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

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*;

wetland/s means an area of seasonally, intermittently or permanently waterlogged or inundated land, whether natural or otherwise, and includes a lake, swamp, marsh, spring, dampland, tidal flat or estuary;

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*.



Matt Warnock
A/ MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

15 July 2010

Plan 3628/1a



LEGEND

- Clearing Instrument
- Area Approved to Clear
- Road Control Lines
- Cadastral for labelling
- Local Government / Bridgetown Fire Sc: Landgate 2009

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



0 300 m

Scale 1:10807

(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 15/7/10

M Warnock

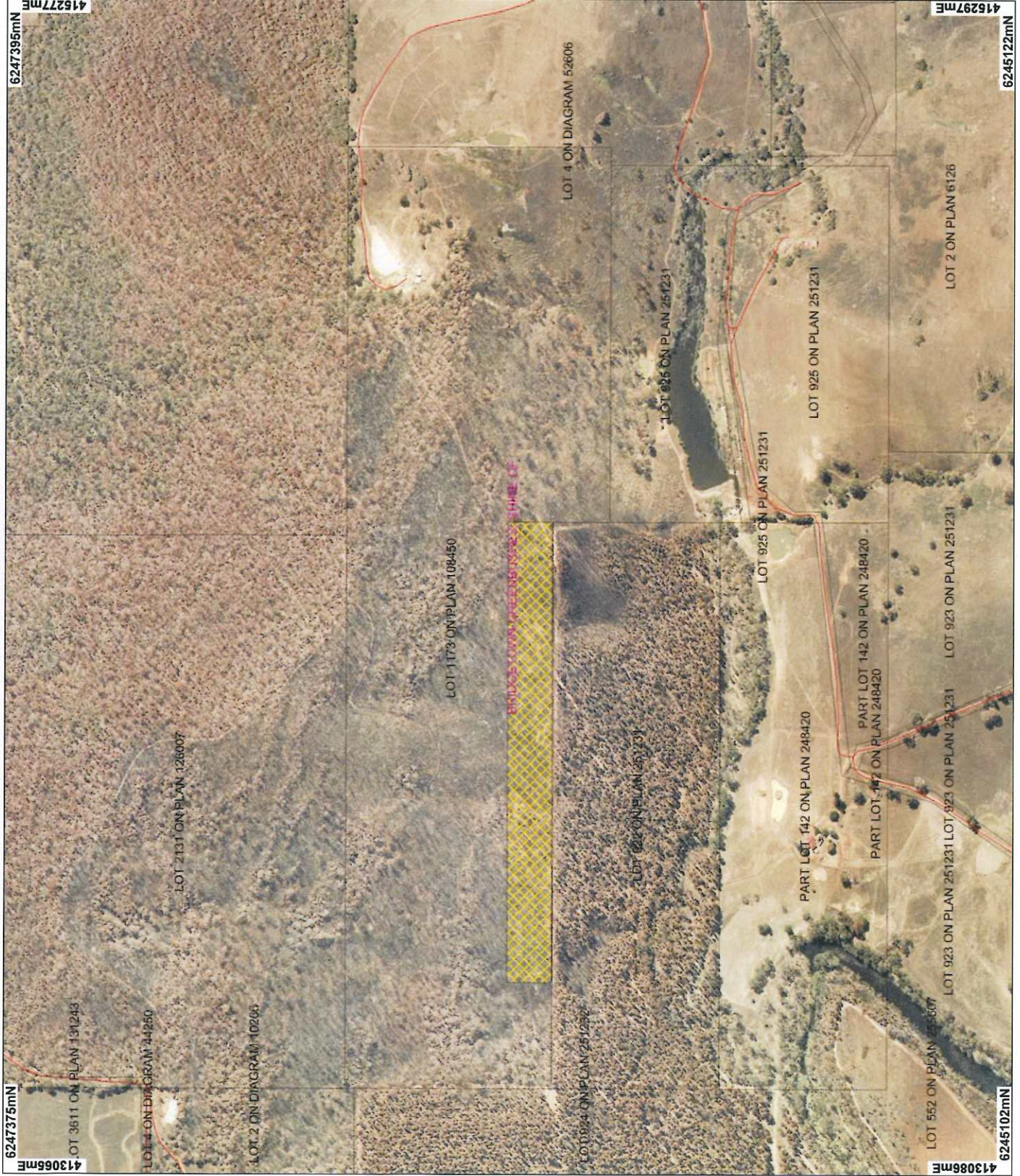
Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



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Plan 3628/1b



LEGEND

- Clearing Instrument
- Area Approved to Clear
- Road Centrelines
- Cadastral for labellir
- Local Government / Bridgetown Fire Sc: Landgate 2009

* Project Data is denoted by asterisk.
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Please contact map author for details.



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(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 15/7/10

M. Warnock

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Plan 3628/1c



LEGEND

- Clearing Instrument
- Area Approved to Clear
- Road Centrelines
- Cadastral for labelling
- Local Government /
Bridgetown Fire Soc.
Landgate 2009

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



0 300 m

Scale 1:10807

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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Michael
M Warnock

Date 15/7/10

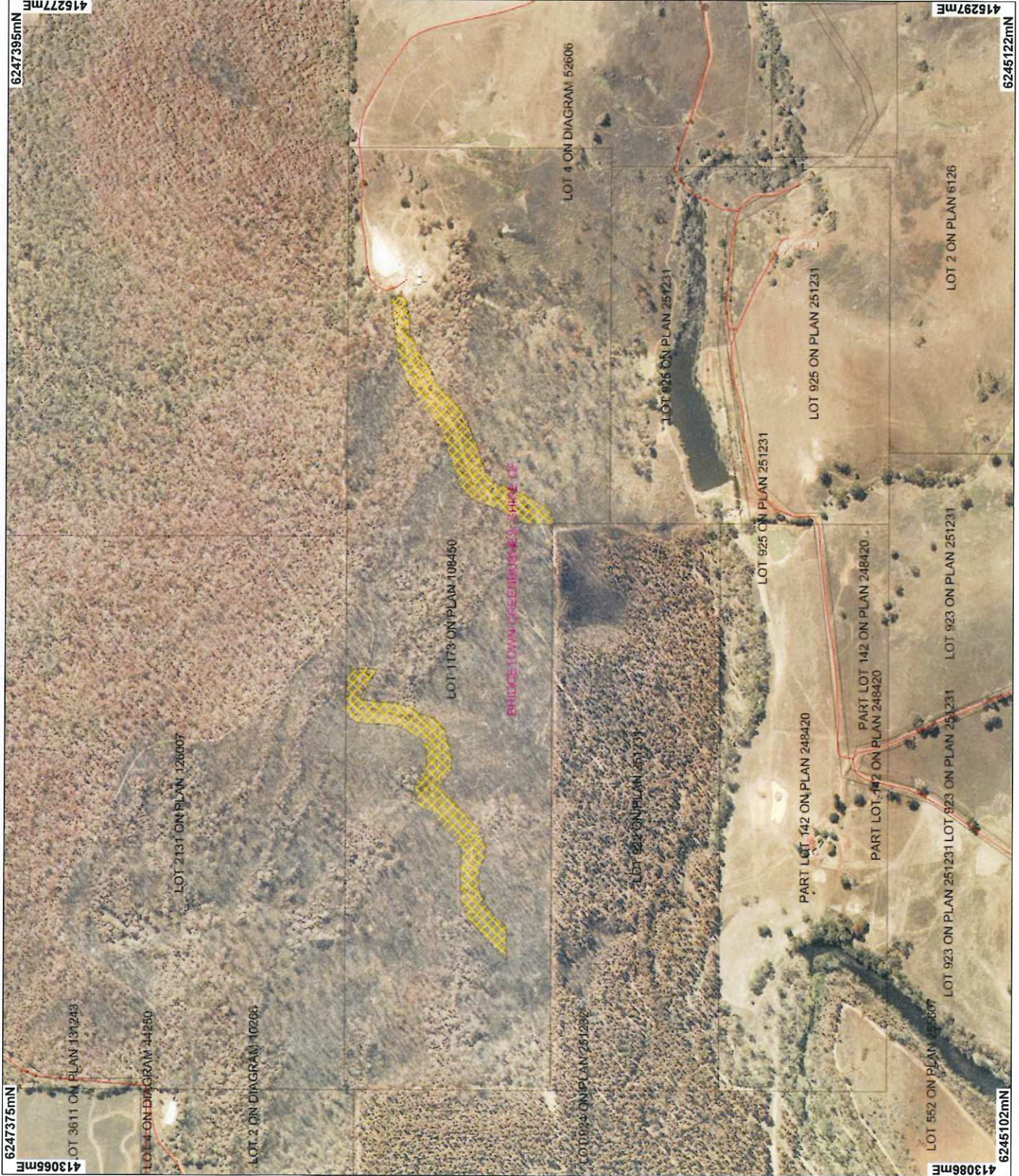
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Plan 3628/1d



LEGEND

- Clearing Instrument
- Area Approved to Clear
- Road Centrelines
- Cadastral for labelling
- Local Government / Bridgetown Fire Sc. Landgate 2008

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



0 300 m

Scale 1:10807
 (Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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M. Warnock Date 15/7/10

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1. Application details

1.1. Permit application details

Permit application No.: 3628/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Richard Arthur Lilley

1.3. Property details

Property: LOT 1173 ON PLAN 108450 (Lot No. 1173 BLACKWOOD PARK HESTER BROOK 6255)

Local Government Area:

Colloquial name:

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 10 | | Mechanical Removal | Grazing & Pasture |
| 4 | | Mechanical Removal | Grazing & Pasture |
| 5 | | Mechanical Removal | Grazing & Pasture |
| 1 | | 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 |
|--|--|---|--|
| <p>J.S. Beard (1980) mapped the vegetation within the area under application as one association.</p> <p>- Bridgetown 3: medium forest; Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri).</p> | <p>A site inspection undertaken by DEC in April 2010 determined that the native vegetation within the area under application comprises Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) forest.</p> | <p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)</p> | <p>A site inspection undertaken by DEC in April 2010 determined that the native vegetation within the area under application is considered to be predominantly in 'good' condition, with some 'degraded' areas such as the cleared area in the south-eastern corner of the area under application.</p> |
| <p>E.M. Heddle (1980) mapped the vegetation within the area under application as two complexes.</p> <p>- Bridgetown Complex in medium to high rainfall.</p> <p>- Dwellingup and Hester Complex in high rainfall - central and south.</p> | | | |
| <p>E. Mattiske (1998) mapped the vegetation within the area under application as two complexes.</p> <p>- Bridgetown (BT) 129: mixture of open forest of Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) with some Eucalyptus patens (Blackbutt) on slopes to low open forest of Eucalyptus rudis (Flooded Gum) - Melaleuca raphiophylla (Swamp Paperbark) on the valley floors in the humid zone.</p> <p>- Dwellingup (D1) 33: open forest of Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) on lateritic uplands</p> | | | |

in mainly humid and subhumid 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 may be at variance to this Principle

This application is for the proposed clearing of approximately 19 hectares of forest within three sites on the property, and proposed silvicultural thinning of approximately 1 hectare along fence lines and existing tracks within the balance of forest on the property. The purpose of the proposed clearing is stated on the application form as "salvage of fire damaged trees; protect fences and access tracks from falling dead trees; protect house from future fire; parkland clear". The property was burnt in a wildfire in January 2009. The applicant has indicated that the primary objectives of the proposed clearing is to reduce the potential fuel load resulting from currently standing dead trees falling over, and to open up dense stands of same-aged saplings to encourage vigorous forest growth. The applicant has indicated that stock are to be grazed in the cleared areas.

A report on the condition of the forest on Lot 1173 (Bradshaw 2010) describes the native vegetation as *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) forest, and includes widespread infestations of the weed *Rubus ulmifolius* (Blackberry). Most of Lot 1173 was cleared prior to the 1950s and allowed to regenerate. A fire in January 2009 severely damaged the forest (which contained fuel loads estimated to be in the order of 20 tonnes per hectare). Many trees are regenerating from coppice and epicormic growth, and understorey is expected to recover to its pre-burning condition. The selective removal of standing trees (dead and alive) is proposed in order to reduce the potential fuel load and to open up areas containing a high density of stems.

A site inspection undertaken by DEC (2010) determined that the native vegetation within the area under application is considered to be predominantly in 'good' condition.

A Land for Wildlife site visit undertaken by DEC (2009) reported a diversity of regenerating floristic midstorey and understorey species including *Persoonia longifolia* (Snottygobble), *Banksia grandis* (Bull Banksia), *Leucopogon verticillatus* (Tassel Flower), *Acacia saligna* (Orange Wattle), *Xanthorrhoea preissii* (Balga), *Xanthorrhoea gracilis* (Graceful Grass tree), *Hardenbergia comptoniana* (Native Wisteria), *Macrozamia riedlei* (*Zamia*) and *Pteridium esculentum* (Bracken). The report for this site visit indicated a vigorous infestation of introduced *Rubus ulmifolius* (Blackberry) had occurred on the property prior to the January 2009 fire.

Numerous fauna species (including at least two species of conservation significance) utilise the area under application as habitat, and as a corridor for moving through the landscape between terrestrial and riparian habitats.

Database records within a ten kilometre radius of the area under application include *Caladenia harringtoniae* (rare), *Carex tereticaulis* (priority 1), *Dampiera heteroptera* (priority 3), *Caladenia arrecta* (priority 4) and *Grevillea ripicola* (priority 4).

The area under application is adjacent to the Hester State Forest, and in close proximity to other conservation areas. Aerial photography indicates that there is approximately 35% vegetation cover within a ten kilometre radius of the area under application. Aerial photography also indicates that the area under application forms part of a larger remnant providing linkage between the Hester State Forest and the Hester Brook / Blackwood River system.

The National Objective and Targets for Biodiversity Conservation 2001-2005 (AGPS 2001) recommends a 30% threshold level for vegetation types, below which species loss appears to accelerate exponentially at an ecosystem level. One of the vegetation complexes mapped by E. Matiske (1998) within the area under application is Bridgetown (BT) 129, which in 2008 had approximately 22.28% (4,784 hectares) of its pre-clearing extent remaining within the Regional Forest Agreement area. The nearest areas of remnant vegetation comprising the Bridgetown (BT) 129 vegetation complex of similar size or larger than the area under application are located approximately 5.2 kilometres west and 5.7 kilometres south of the area under application.

Given the presence of an extensively cleared vegetation complex predominantly in 'good' condition and the recorded presence of at least two fauna species of conservation significance within the area under application, and the linkage provided by the area under application, the proposed clearing may impact on native vegetation comprising a high level of biodiversity.

This proposal may be at variance with this principle.

Methodology

DEC 2010
DEC 2009
Bradshaw 2010
AGPS 2001
GIS datasets:
- Bridgetown 50cm Orthomosaic - Landgate 2004

- IBRA WA (Regions - Sub Regions) - DEH 2004
- Pre-European Vegetation - Beard 1980
- Heddle Vegetation Complexes - DEP 1995
- Mattiske Vegetation - CALM 1998
- SAC biodatasets:
- WAHerb - DEC 2008
- DeFI - DEC 2008
- Fauna - DEC 2009

(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

Aerial photography indicates that the area under application forms part of a larger remnant providing linkage between the Hester State Forest and the Hester Brook / Blackwood River system.

A site inspection undertaken by DEC (2010) determined that prior to the fire in January 2009 there had been possums utilising the native vegetation within the area under application.

A Land for Wildlife site visit undertaken by DEC (2009) reported the landowner's observations of Western Grey Kangaroo, Brush-tailed Possum, Magpie, Kookaburra (introduced), Red-tailed Black-Cockatoo (threatened), White-tailed Black-Cockatoo (threatened), Twenty-eight Parrot, Emu, Wedge-tailed Eagle, robins and various ducks (on four waterholes on the property) within the area under application. The report for this site visit identified the importance of the area under application as a linkage with other areas of remnant native vegetation. The report indicated that fallen habitat logs were lost during the January 2009 fire, and recommended that standing timber (dead and live) should be retained as habitat.

There are approximately 20 recorded occurrences of fauna of conservation significance within a ten kilometre radius of the area under application. The nearest is a 2001 record for *Tyto novaehollandiae* subsp. *novaehollandiae* (Masked Owl, priority 3) approximately 340 metres north of the area under application. In 2004 *Pseudocheirus occidentalis* (Western Ringtail Possum, threatened) was recorded approximately 2.8 kilometres south west of the area under application. Other fauna of conservation significance in the local area include *Phascogale tapoatafa* subsp. *tapoatafa* (Brushtailed Phascogale, threatened), *Dasyurus geoffroii* (Chudich, threatened), *Myrmecobius fasciatus* (Numbat, threatened), *Calyptorhynchus banksii naso* (Forest Red-tailed Black-Cockatoo, threatened), *Calyptorhynchus baudinii* (Baudin's Black-Cockatoo, threatened), *Calyptorhynchus latirostris* (Carnaby's Black-Cockatoo, threatened), *Falcunculus frontatus leucogaster* (Crested Shrike-tit, priority 4), *Hydromys chrysogaster* (Water-rat, priority 4), *Burhinus grallarius* (Brush Stone-curlew, priority 4), and *Ixobrychus flavicollis australis* (Black Bittern, priority 3).

The area under application is part of an ecological linkage. There have been observations of at least two threatened fauna species on the property. It is likely that *Tyto novaehollandiae* subsp. *novaehollandiae* (Masked Owl, priority 3) occurs within the area under application.

The proposed clearing may impact on connectivity and fauna habitat.

This proposal may be at variance with this principle.

If a clearing permit is granted for this application, a condition may be imposed requiring that no habitat trees are to be cleared.

Methodology

References

- DEC (2010)
- DEC (2009)

GIS datasets:

- Bridgetown 50cm Orthomosaic - Landgate 2004
- Hydrography, linear (medium scale, 250k GA) - DOW 2006

SAC biodatasets:

- Fauna - DEC 2009

(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 is one record of rare flora within a ten kilometre radius of the area under application. This is *Caladenia harringtoniae*, located approximately 4.3 kilometres north west of the area under application within the Greenbushes State Forest. This species grows in sandy loam soils associated with winter wet flats, margins of lakes, creeklines and granite outcrops (WA Herbarium 1998+).

J.S. Beard (1980) and E. Mattiske (1998) describe the mapped vegetation as primarily *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) forest. In 2007 this vegetation association had greater than 60% of its pre-clearing extent remaining within the bioregion and was well represented in conservation tenure.

The soils within the area under application are mapped as type Qb31, described as hilly to steep hilly terrain of rather broken relief: chief soils are hard neutral red soils and acidic red soils with hard neutral, and also acidic, yellow mottled soils (Northcote et al 1960-8).

A site inspection undertaken by DEC in April 2010 determined that the native vegetation within the area under application comprises *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) forest.

It is unlikely that *Caladenia harringtoniae* occurs within the area under application because of different habitat requirements.

Given the uniformity of the native vegetation and soils across the local area, and the low number of records of rare flora within the local area, it is unlikely that the area under application includes rare flora.

This proposal is not likely to be at variance with this principle.

Methodology

References

- DEC (2010)
- Northcote et al (1960-8)
- WA Herbarium (1998+)

GIS datasets:

- Bridgetown 50cm Orthomosaic - Landgate 2004
- Pre-European Vegetation - Beard 1980
- Mattiske Vegetation - CALM 1998

SAC biodatasets:

- WAHerb - DEC 2008
- DeFI - DEC 2008

(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 recorded occurrences of threatened ecological communities within a ten kilometre radius of the area under application.

J.S. Beard (1980) and E. Mattiske (1998) describe the mapped vegetation as primarily *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) forest. In 2007 this vegetation association had greater than 60% of its pre-clearing extent remaining within the bioregion and was well represented in conservation tenure.

The soils within the area under application are mapped as type Qb31, described as hilly to steep hilly terrain of rather broken relief: chief soils are hard neutral red soils and acidic red soils with hard neutral, and also acidic, yellow mottled soils (Northcote et al 1960-8).

A site inspection undertaken by DEC (2010) determined that the native vegetation within the area under application comprises *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) forest.

Given the uniformity of the native vegetation and soils across the local area, and no record of threatened ecological communities occurring within the local area, it is unlikely that the area under application comprises a threatened ecological community, or is necessary for the maintenance of one.

This proposal is not likely to be at variance with this principle.

Methodology

References

- DEC (2010)
- Northcote et al (1960-8)

GIS datasets:

- Pre-European Vegetation - Beard 1980
- Mattiske Vegetation - CALM 1998

SAC biodatasets:

- TEC-PEC sites - DEC 2009

(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

Aerial photography indicates that there is approximately 35% vegetation cover within a ten kilometre radius of the area under application. Aerial photography also indicates that the area under application forms part of a larger remnant providing linkage between the Hester State Forest and the Hester Brook / Blackwood River system.

The native vegetation and soils across the local area appear to be uniform in their distribution. Given the amount of

vegetation cover in the local area, of which a large portion is contained within State Forest, it is unlikely that the native vegetation under application could be considered significant as a remnant in an extensively cleared area.

This proposal is not likely to be at variance with this principle.

- Methodology** Bradshaw 2010
GIS datasets:
- Bridgetown 50cm Orthomosaic - Landgate 2004
 - IBRA WA (Regions - Sub Regions) - DEH 2004
 - Pre-European Vegetation - Beard 1980
 - Heddl Vegetation Complexes - DEP 1995
 - Matiske Vegetation - CALM 1998

(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 may be at variance to this Principle

The area under application is located approximately 220 metres north of, and at its lowest point approximately 20 metres higher than, the Hester Brook which is a tributary of the Blackwood River.

J.S. Beard (1980) and E. Matiske (1998) describe the mapped vegetation as primarily *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) forest.

A report on the condition of the forest on Lot 1173 (Bradshaw 2010) describes the native vegetation as *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) forest, and includes widespread infestations of the weed *Rubus ulmifolius* (Blackberry).

A site inspection undertaken by DEC (2010) determined that the area under application includes gullies and watercourses.

A Land for Wildlife site visit undertaken by DEC (2009) reported the presence of *Eucalyptus rudis* (Flooded Gum) associated with watercourses on the lower slopes.

The proposed clearing may impact on riparian vegetation.

This proposal may be at variance with this principle.

If a clearing permit is granted for this application, a condition may be imposed requiring that clearing does not occur within 30 metres of the riparian vegetation of any watercourse or wetland.

- Methodology** References
- DEC (2010)
 - DEC (2009)
 - Bradshaw (2010)
- GIS datasets:
- Hydrography, linear (medium scale, 250k GA) - DOW 2006
 - Topographic Contours, Statewide - DOLA 2002
 - Pre-European Vegetation - Beard 1980
 - Matiske Vegetation - CALM 1998

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

Comments Proposal may be at variance to this Principle

The landform of the area under application is hilly, ranging from approximately 130 to 270 metres above sea level. The highest point is located at the north eastern end of the area under application, sloping downwards towards the Hester Brook.

The soils within the area under application are mapped as type Qb31, described as hilly to steep hilly terrain of rather broken relief: chief soils are hard neutral red soils and acidic red soils with hard neutral, and also acidic, yellow mottled soils (Northcote et al 1960-8).

A report on the condition of the forest on Lot 1173 (Bradshaw 2010) describes the slope as varying from 3 to 30 degrees with an average of 12 degrees, and recommends that very steep slopes should not be cleared.

A site inspection undertaken by DEC (2010) determined that the area under application has a topography characterised by steep slopes, with some flatter areas on the ridges along the northern boundary of the area under application.

Groundwater salinity within the area under application is mapped as 500-1000mg/L, and salinity mapping

indicates that the area under application is not at immediate risk of salinity. Acid sulphate soil mapping is not available for this area.

A Land for Wildlife site visit undertaken by DEC (2009) reported slope gradients of up to 50 degrees across the property. The report for this site visit also indicated evidence of salt encrusting the edges of a recently-dug waterhole at the top of a watercourse on the property.

The proposed clearing may result in soil erosion and increased surface water runoff.

This proposal may be at variance with this principle.

If a clearing permit is granted for this application, a condition may be imposed requiring the retention of a minimum stem density.

- Methodology**
- References
- DEC (2010)
 - DEC (2009)
 - Bradshaw (2010)
 - Northcote et al (1960-8)
- GIS datasets:
- Topographic Contours, Statewide - DOLA 2002
 - Soils, Statewide - AGWA 1999
 - Hydrography, linear (medium scale, 250k GA) - DOW 2006
 - Salinity Risk LM 25m - DOLA 00
 - Salinity Mapping LM 25m - DOLA 00
 - Groundwater Salinity, Statewide - DOW 2000

(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 under application is adjacent to the Hester State Forest, and approximately 1.8 kilometres north west of an un-named nature reserve (Reserve 43031). Other DEC-managed estate within a ten kilometre radius of the area under application includes the Greenbushes State Forest, Nannup State Forest, North Donnelly State Forest, Hester Conservation Park, un-named timber reserve (Reserve O-191-25), un-named timber reserve (Reserve O-197-25), un-named timber reserve (Reserve O-168-25), and Dalgarp National Park.

The property is registered with Land for Wildlife (DEC 2009), which is a voluntary program assisting owners of private lands to manage native vegetation for nature conservation purposes. In addition there are several Land for Wildlife sites within a ten kilometre radius of the area under application.

Several Department of Agriculture and Food (WA) heritage sites (including covenants and agreements to reserve) and one National Trust of Australia (WA) conservation covenant site occur within a ten kilometre radius of the area under application. Some are linked with, or in close proximity to, the area under application.

Given the proximity of the Hester State Forest, the proposed clearing may impact on the environmental values of this area through the increased potential for the intrusion of dieback or weed species.

This proposal may be at variance with this principle.

If a clearing permit is granted for this application, a condition may be imposed requiring weed and dieback management.

- Methodology**
- References
- DEC (2009)
- GIS datasets:
- Bridgetown 50cm Orthomosaic - Landgate 2004
 - CALM Managed Lands and Waters - CALM 2005
- SAC biodatasets:
- Land for Wildlife - DEC 2008
 - DEC covenant - DEC 2008
 - NTWA covenant - NTWA 2008
 - AGWA heritage shapes - DAFWA 2007

(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**

The landform of the area under application is hilly, with hard soils (Northcote et al 1960-8).

Groundwater salinity within the area under application is mapped as 500-1000mg/L, and salinity mapping indicates that the area under application is not at immediate risk of salinity.

A report on the condition of the forest on Lot 1173 (Bradshaw 2010) describes the slope as varying from 3 to 30 degrees with an average of 12 degrees, and recommends that very steep slopes should not be cleared.

A site inspection undertaken by DEC (2010) determined that the area under application has a topography characterised by steep slopes, with some flatter areas on the ridges along the northern boundary of the area under application.

A Land for Wildlife site visit undertaken by DEC (2009) reported slope gradients of up to 50 degrees across the property. The report for this site visit also indicated evidence of salt encrusting the edges of a recently-dug waterhole at the top of a watercourse on the property.

The proposed clearing may result in soil erosion and increased surface water runoff. This may result in downstream impacts on the Hester Brook, such as eutrophication and sedimentation.

This proposal may be at variance with this principle.

If a clearing permit is granted for this application, a condition may be imposed requiring that clearing does not occur within 30 metres of the riparian vegetation of any watercourse or wetland.

Methodology

References

- DEC (2010)
- DEC (2009)
- Bradshaw (2010)
- Northcote et al (1960-8)

GIS datasets:

- RIWI Act, Groundwater Areas - DOW 2006
- Hydrography, linear (medium scale, 250k GA) - DOW 2006
- Topographic Contours, Statewide - DOLA 2002
- CAWSA Part IIA - Clearing Control Catchments - DOW 2006
- Public Drinking Water Source Areas (PDWSAs) - DOW 2006
- Salinity Risk LM 25m - DOLA 00
- Salinity Mapping LM 25m - DOLA 00
- Groundwater Salinity, Statewide - DOW 2000

(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

The landform of the area under application is hilly, with hard soils (Northcote et al 1960-8).

The area under application has an average annual rainfall of 900 millimetres and an average annual evapotranspiration of 800 millimetres, resulting in an average annual recharge of 100 millimetres.

The proposed clearing is unlikely to result in an increase in the incidence or intensity of flooding in the local area.

This proposal is not likely to be at variance with this principle.

Methodology

References

- Northcote et al (1960-8)

GIS datasets:

- Soils, Statewide - AGWA 1999
- Topographic Contours, Statewide - DOLA 2002
- Rainfall, Mean Annual - BOM 2001
- Evapotranspiration, Areal Actual - BOM 2001

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

Comments

A report on the condition of the forest on Lot 1173 has been provided (Bradshaw 2010). The report is a snapshot of current forest condition and not a forest management plan for sustainable harvest.

One submission was received, expressing concerns regarding the removal of existing vegetation along watercourses and on steep slopes (Submission 2010). These concerns are addressed under principles (g) and (i).

The Shire of Bridgetown-Greenbushes has advised that planning approval is required to clear trees in

accordance with the Shire's Town Planning Scheme with comments to be sought from the Commissioner of Soil and Land Conservation (Submission 2010). The applicant should liaise with the Shire in relation to compliance with this requirement.

The threatened Black-Cockatoo (Forest Red-tailed *Calyptorhynchus banksii naso*, Baudin's *Calyptorhynchus baudinii*, and Carnaby's *Calyptorhynchus latirostris*) are protected under Commonwealth Environment Protection and Biodiversity Conservation Act 1999. The proposed clearing may result in a loss of habitat for these species, and may therefore require referral to the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA) for assessment.

A Commercial Producers Licence under the Wildlife Conservation Act 1950 will be required to sell the timber sourced from living trees. The applicant should liaise with the Department of Environment and Conservation in relation to compliance with this requirement.

Methodology References
- Bradshaw (2010)
- Submission (2010)

4. Assessment recommendations

Comment

Assessment of this application has determined that the clearing proposed 'may be at variance' with clearing principles (a), (b), (f), (g), (h) and (i); and 'is not likely to be at variance' with clearing principles (c), (d), (e) and (j).

5. References

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- Western Australian Herbarium (1998-current). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (accessed March 2010).

6. Glossary

| Term | Meaning |
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| CALM | Department of Conservation and Land Management (now DEC) |
| DAFWA | Department of Agriculture and Food |
| DEC | Department of Environment and Conservation |
| DEP | Department of Environmental Protection (now DEC) |
| DoE | Department of Environment (now DEC) |
| DoW | Department of Water |
| DMP | Department of Mines and Petroleum (ex DoIR) |
| 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)